ORE FORMING SYSTEMS IN THE WESTERN COMPARTMENT OF THE BEJA LAYERED GABBROIC SEQUENCE (OSSA MORENA ZONE PORTUGAL)

VOLUME II

This volume contains a section where laboratorial/analytical procedures and conditions can be found (Methodologies), besides of the adopted conventions and terminology. All the Appendixes referred in the main text are also included.

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I. ORE-FORMING SYSTEMS ASSOCIATED WITH LAYERED (ULTRA) MAFIC INTRUSIONS: CONCEPTS AND OVERVIEW

I.1. Terminology for layered intrusions

In this section, several critical concepts that are recurrent in layered igneous intrusions literature are briefly revised and discussed. The listing here presented is far from being exhaustive (nor it is intended to be so) and focuses on few fundamental definitions with the aim of clarifying the conventions followed in this work. This may also aid the less familiar reader to get acquainted with some specific terms regarding this subject and follow the main text more clearly. Definitions are presented according with their relevance at the increasingly small scales, from outcrop, to thin section and finally geochemistry.

Layering definition (meso to microscale relevance)

In this work, the significance given by Irvine (1987) is adopted. **Layering** is thus defined as *the overall planar structure and fabric of cumulates as manifest through the combinations of layers, laminae and lamination.* Layering is, in most simple terms, used as synonym for the magmatic stratification to which a mineral fabric can, but does not need to, superimpose. Such mineral fabrics are designated **magmatic foliation (or lamination)-** *platy alignment of tabular or prismatic minerals*-and **magmatic lineation-** *linear alignment of such minerals*. Both are conspicuous, pervasive at the grain-size scale and co-planar of the layering, but do not define themselves distinctive layering planes. Other types of layering features can be categorized:

(i) Grain-size layering: layers are distinguished by minerals of different grain-size;

(ii) Modal layering: layers are distinguished by different mineral proportions, which can give rise to distinct rock types.

(iii) Rhythmic layering: layering characterized by conspicuous, systematic recurrence of distinctive layers or sequence of layers of similar same kind.

(iv) Cryptic layering: is the compositional variation recorded by the minerals along the stratigraphic succession and thus an exception relative to the above, since it is a chemical feature.

Cumulate textures nomenclature (microscale relevance)

The concept of crystal settling was central to the original cumulate theory and a nomenclature for cumulate rocks textures was developed to reflect the ideas conveyed by it. A distinction is made between accumulated primocrysts or cumulus minerals and the trapped interstitial or intercumulus melt. Based on different proportions of each phase, two end-case textures are possible (Wager et al., 1960): *(i)* following their precipitation, early formed cumulus crystals continue to grow by diffusive interchange excluding all interstitial liquids resulting in an **adcumulate** rock or; *(ii)* fail to grow and new intercumulus minerals crystallize from the liquid matrix resulting in an **orthocumulate** rock. If crystals of another phase nucleate from the interstitial liquid following some adcumulus growth of primocrysts, the resulting rock will lie between both extremes and is generically labelled as **mesocumulate. I**f those crystals precipitate from the intercumulus liquid by diffusive adcumulus growth the rock is labelled an **heteradcumulate**.

These definitions explicitly assume that crystal settling is the main process for primocrysts accumulation and that adcumulus growth is ruled by chemical diffusion. A less obvious, but major implication, of this theory is the assumed preservation of original textures and mineral proportions, thus disregarding the strong textural modifications that take place following crystallization during the (usually)

long process of cooling and subsolidus equilibration (*e.g.* Hunter, 1987). Accumulated evidence along last decades suggests that simple crystal settling takes place, but is not by all means the main process controlling modal layering in mafic/ultramafic intrusions (McBirney & Nicolas, 1997). Non-dynamic processes operating in-situ, such as compaction, play a major role in the genesis of cumulate rocks (Boudreau & McBirney, 1997; Meurer & Boudreau, 1998a).

Taking these factors in account and following the suggestion of McBirney & Hunter (1995), the term **cumulate** is used in this work as a synonym for *a coarse-grained igneous rock whose composition does not correspond to a natural silicate liquid*. Regarding the nomenclature scheme above outlined, classification of textures according with the cumulus nomenclature (orthocumulate, mesocumulate etc.) as above described is avoided, considering that there is no way to reasonably assert the way intercumulus minerals originally grew (*e.g.* if they resulted of adcumulus diffusive growth of pre-existing smaller cumulus minerals or were directly crystallized from the trapped intercumulus melt), nor if cumulus minerals actually result of gravitic-induced crystal settling.

An exception is made to the classification as **adcumulate**, which is used to describe *the texture of a rock comprising a framework of annealed minerals contacting through triple-point junctions*. However, again, no genetic connotation is attached, as given by the original cumulus theory. Moreover, the most prominent rocks exhibiting adcumulate textures, *i.e.*, monomineralic rocks presenting a complex origin as discussed in section **II.5.1- Vol.1**. The use of the adcumulate term while classifying a rock with annealed texture assemblage should thus be regarded as indicative of high textural maturity due to extensive subsolidus equilibria in which minerals achieved their lower and most favourable energetic balance. Because these rocks experienced significant textural modifications ever since their original crystallization, the current textural assemblage does not likely reflect the original textural (and eventually) paragenetic relationships. Bearing in mind the limitations imposed by subsolidus modifications, crystallization order for the studied rocks is tentatively inferred when possible and conveyed to the reader by making use of the **cumulus vs. intercumulus** terms with *descriptive purposes of textural relations of earlier/matrix-forming relative to later/interstitial minerals*.

Introducing the Trapped melt concept (microscale/geochemical relevance)

During partial melting of mantle peridotite, incompatible elements are concentrated into the magma and increase in the residual melt throughout crystal fractionation as solid phases crystallize (*e.g.* Sun & McDonough, 1989). A cumulate rock represents the solid residuum of a melt undergoing crystal fractionation. Accordingly, it will have very low absolute concentrations for most incompatible elements due to strong dilution effect in the solid phases. Conversely, some compatible elements present in cumulate minerals will have strongly enhanced concentrations, such as Ni in olivine, Ti and V in oxides or Cr in chromite or clinopyroxene. Only incompatible elements that have higher solid/liquid partition coefficients with any of the accumulating phases will present enhanced abundances (*e.g.* Ba and Sr in plagioclase and more limitedly, Y in clinopyroxene).

An important and recurrent concept in the layered igneous intrusions literature is the **trapped melt fraction**, originally introduced by Henderson (1970) and according to which *cumulate rocks are envisaged as a binary mixture comprising the cumulus solid phases (plus adcumulus and heteradcumulus phases- see ahead) and a portion of melt that becomes trapped in the interstices of the*

solid framework, the ***trapped melt fraction*** *(TMF)*. As it is apparent, the genetic connotations of the cumulus theory textures are embedded in this definition. Still, the general idea is that mineral phases developing at near-liquidus temperatures [(*i.e.*. while there is efficient exchange between the crystal mush and the melt reservoir (the so-called adcumulus overgrowths and heteradcumulus phases forming a poikilitic intercumulus framework around the cumulus minerals)] are not, in principle, thought to be a part of the trapped melt fraction. An example for LGS rocks are the common intercumulus clinopyroxene oikocrysts which, although usually being later than cumulus olivine + plagioclase, are clearly liquidus phases.

The TMF is expectedly more enriched in incompatible elements relatively to the cumulus solid phases, as well as more evolved in terms of compatible elements (*e.g.* higher Fe/Mg). If discrete late-magmatic phases crystallize from TMF (*e.g.* apatite, amphibole) they will be the main repository of incompatible elements due to their higher partition coefficients regarding most incompatible elements. Otherwise, the incompatible elements budget of TMF will be included along optically inconspicuous overgrowths and rims with the available solid phases. The compatible element contribution of TMF is more easily incorporated in liquidus minerals (the adcumulus and heteradcumulus overgrowths) and, as proposed by Barnes (1986), will cause a compositional shift (the "trapped liquid shift) of pre-existing minerals towards more evolved, iron-rich compositions. The magnitude of this shift is mostly a function of the TMF% (*i.e.* the initial porosity of the cumulate) and only weakly dependent on the initial phase composition.

Immediately after accumulation, a mush may contain substantial volumes of trapped liquid. During cooling, part of the trapped liquid will be expelled by compaction, while the remaining portion will crystallize in situ once the system becomes closed. If expelled by compaction, the more evolved melt may be either redistributed within the crystal pile, re-equilibrating with the adjoining layers (*e.g.* the process of infiltration metasomatism or constitutional zone refining see McBirney, 1987). Ultimately, TMF will return to the main magma reservoir whereupon, depending on the relative proportions, may modify its composition.

In the absence of conspicuous discrete phases that can be related with the TMF crystallization of (this being by large the most common case, especially considering the difficulty added by textural maturation of cumulates), the numerical (% mode) estimate of the TMF mostly relies on incompatible elements variations instead of textural criteria, namely phosphorous (Henderson, 1970; Cawthorn & Walsh, 1988; Meurer & Boudreau, 1998; Charlier et al., 2006), but also zirconium (Chalokwu & Grant, 1987), TiO_2 (Grant & Chalokwu, 1987), barium, strontium or yttrium (Meurer & Boudreau, 1998). Some rocks with low modal and cryptic variance such as anorthosites and associated troctolites, have proved to be particularly amenable for this type of evaluation and correlations between the TMF amount and intercumulus phases have been successfully established (Chalokwu & Grant, 1987; Bédard, 2001). These results encourage the application of this principle to cumulates with more complex mineralogy or sequences with wider vertical/lateral cryptic variance. Quantitative estimates of TMF are critical in inversion techniques to extrapolate the liquids in equilibrium with cumulate rocks trough modelling of trace elements. Details of the methods that allow estimating TMF are part of the reasoning underlying such modelling techniques and therefore are presented in the respective section of the main text (section **III.5.3- Vol.1**)

I.2. Ore-forming systems associated with layered (ultra)mafic intrusions: an overview

The study of layered intrusions has provided important constrains on the evolution of the upper mantle as well as mantle-crust interaction processes throughout geological time: from Achaean (*e.g.* Stillwater, USA; the Bushveld Igneous Complex, Republic of South Africa) to Phanerozoic times, when the young Skaergaard intrusion (*ca.* 55 Ma) in Greenland was emplaced. The latter is one of the most prominent case-studies, not as much for its size, a modest 64 km^2 of outcropping area compared with giants as Sudbury (1342 km^2) or Bushveld (67340 km^2), or metal enrichment since no mining was ever performed. Skaergaard notability is due to its evolution as a nearly perfect closed system that, combined with an exceptional exposure and pristine preservation, make it an unsurpassed laboratory for the study of magmatic processes granting it the title of "*most thoroughly studied body of igneous rocks on Earth*" (McBirney, 1989a).

Mineralizations associated to intrusive mafic and ultramafic magmatism represent the major world sources for base and precious metals (Ni, Cu, PGE- Platinum Group Elements, Cr, Ti, V), the Bushveld (Von de Gruenwaldt et al., 1985) and Sudbury Igneous Complexes (Naldrett, 2004) notably leading this class of deposits as they host the Earth's greatest reserves in Cr + PGEs and Ni, respectively. The metallogenesis of these mineralizations, generally referred as "orthomagmatic" since Niggli's early works (Niggli, 1929 ref. in Guilbert & Park, 1986; Evans, 1987, 1993), cannot be understood without the systematic study of their host intrusions because the source and concentration of the metals are intrinsically linked to the physical and chemical processes operating during: *(i)* mantle melting; *(ii)* melt segregation, progression (en-route) to the crust and magma-chamber emplacement; *(iii)* in-situ differentiation and long-term crystallization of the magmas. As a consequence of this intimate association, the study of ore deposits in mafic and ultramafic intrusions legitimizes a sub-discipline that has been named "economic-petrology": a meeting point for igneous petrologists, geochemists, metallogenists and our peers from the exploration industry, therefore representing a particularly rich field for scientific debate.

I.2.1. Main features

Mineralizations related to layered intrusions are broadly classified according with their dominant metal association: Fe-Ti-V, Ni-Cu-PGE or Cr deposits (which may be further refined, see **I.2.3**). These associations prevail both in exploitable deposits and sub-economic occurrences and therefore convey the dominance of a given metallogenic process for each case. Many schemes of classification for each of the various deposit (sub-)types have been proposed based on distinct features such as: *(i)* the metal and/or mineral association; *(ii)* mode of occurrence within the intrusions; *(iii)* tectonic setting; *(iv)* host magma type or, more frequently; *(v)* a combination of several factors (Cox & Singer, 1986; Guilbert & Park, 1986; Naldrett, 2004; Sawkins, 1990; Robb, 2005). **Table I.1** to **I.4** put in evidence the main distinguishing features within each deposit type, pertaining textural and morphological criteria of ores relative to their host rocks; however, primacy is given to the tectonic setting, which chiefly constrains the nature of the associated magmatism. Many features of tables **I.1** to **I.4** were (in part) adapted from the classification schemes presented in the review works by Naldrett (2004); Arndt et al. (2005), Barnes & Lightfoot (2005) and Cawthorn et al. (2005).

Table I.1- Main features of sulphide dominant deposits with Ni-Cu ± PGE mineralizations occurring in (layered) (ultra-)mafic intrusions.

Tectonic setting		Related magmatism	Age span	METALS	Ore associated rocks	Main location within host	Ore morphology and textures	Main exploited deposits/prospects	REFS
Astrobleme		Impact flash melt (unique)	Meso-proteroz.	Ni/Cu ≈1 Very high PGE	Gabbronorite	Basal	Massive to net-textured ore layers near contacts of host units may grade to disseminated ore Veins (massive to disseminated ore) and stocks within footwall and host rocks (offset ores) or dykes	Sudbury	[1] [2]
Rifting	With associated CFB volcanism	Small sills/layered intrusions and conduits of the plumbing system feeding sub-aerial volcanism of tholeiitic-alkaline composition	Mesoz.	Ni/Cu [0.5-2] PGE equally economic	Gabbronorite minor peridotites/pyroxenites	Basal	Massive to net-textured ore layers or large accumulations near contacts of host units Blebby disseminated ores at higher levels	Noril'sk-Talnahk (Russia)	[1] [2] [3]
		Medium to large-sized layered intrusions of tholeiitic composition	Neo - proteroz.	Ni/Cu [0.5-2] ≈1 Moderate PGE	Troctolite to (Ol/noritic) gabbro	Stratabound (may occur at several heights)	Globular to net-textured ore with minor massive ore in sheets Fine to very fine (cloudy) intercumulus disseminated ore in host units Cu-rich veins (massive to disseminated) and ore stocks within hanging-wall and host rocks (offset ores)	Duluth (USA), Insiwa (RSA) ***PROSPECTS***: Muscox (USA)	[1] [2]
	Rifted continental margin	Medium sized elongated and tabular intrusions of ultramafic composition. May represent a high-MgO (30 wt%) magma or lower cumulates of (now eroded?) tholeiitic magma	Neo - proteroz.	Ni/Cu ≈1.76 Moderate PGE	Chamber zoning: dunite core, lherzolite wings, Ol pyroxenite margins	Basal	Net-textured within dunite that grades to disseminate ore towards the lherzolitic envelope	Jinchuan (China)	[1] [2] [4, 5]
		Small layered intrusions of (ferro)picritic composition	Meso - proteroz.	Ni/Cu [3-10] Uneconomic PGE	Strongly deformed and altered gabbro and wehrlite	Basal to stratabound at higher levels	Massive, banded to (rich) disseminated ore layers near contacts of host units Breccia ores enclosing deformed host rocks at tectonic contacts Veined or disseminated ores at upper levels, locally, stringer ores interbedded with country rocks sediments	Several deposits in the Pechenga area (Russia)	[1] [2]
Province boundary feeder		Layered intrusions of the anorthosite-granite-troctolite series	Neo-proteroz.	Ni/Cu [1 - 2] Uneconomic PGE	Ol (gabbro) to troctolite	Basal	Massive to net-textured ore layers near contacts of host units Intercumulus blotchy (<=30cm) ore in magmatic breccias Blotchy, blebby and disseminated ore at higher levels	Voisey's bay	[1] [2] [6]

Table I.1 (cont.)- Main features of sulphide dominant deposits with Ni-Cu ± PGE mineralizations occurring in (layered) (ultra-)mafic intrusions.

	Tectonic setting	Related magmatism	Age span	METALS	Ore associated rocks	Main location within host	Ore morphology and textures	Main exploited deposits and important prospects	REFS
Orogenic	Early to syn-orogenic following main stage of arc magmatism of the Svecofennian/Sveconorweggian orogeny	Small plug-like intrusions of high MgO to tholeiitic composition that where feeder-channels of (eroded) mafic shallower intrusions	Paleo-proteroz.	Ni/Cu [3.5-5.5] Low PGE	Severally deformed and metamorphosed peridotite to gabbro	Basal	Disseminated to massive ore layers and lenses near contacts of host units Breccia ores enclosing deformed host rocks at tectonic contacts Offset massive ores tectonically squeezed several meters into to the host rocks	***MINED OUT:*** Kotalahti and Vammala Nickel belts (Finland), Lappvattnet Nickel belt (Sweeden), several early Sveconorwegian deposits (Flat, Ertelien, Hosanger Espedalen) in Norway.	[7] [8, 9] [10]
	Intra orogenic during transitional tensional regimes (Caledonian Orogeny)	Small to moderate sized layered intrusions of high-MgO (Caledonic)	Paleozoic (Dev)	Ni/Cu [3.5-6.5] Uneconomic, very low PGE	Variably deformed and metamorphosed gabbroic rocks spectrum (norite to troctolite) with abundant ultramafic cumulates (dunite and peridotite)	Stratabound both at high or lower levels	Disseminated to net-textured with rare massive ore lenses ores both at basal and internal portions of the intrusion, rarely at the contacts with host units Widespread uneconomic disseminated Sulphs throughout the intrusions	***MINED OUT:*** Bruvnan (Rana Layered intrusion) plus other smaller deposits (Skjaekerdalen, Vakkerlien) in Norway	[10] [11] [12] [13, 14, 15]
	Late orogenic waning orogenic stages of the Acadian Orogeny (Appalachians)	Small, (usually) poorly layered intrusions of tholeiitic composition	Paleozoic (Silurian)	- Average (Ni+Cu)/S [0.09-0.66] - Uneconomic, very low PGE	Variably deformed and metamorphosed gabbroic rocks spectrum (norite to troctolite) and minor ultramafic cumulates (dunite and peridotite)	Stratabound both at high or lower levels	- Disseminated (± net-textured and rare massive lenses) ores both at basal and internal portions of the intrusion, rarely at the contacts with host units - Widespread uneconomic disseminated throughout the intrusions - Rare veined or stringer ores	***ALL PROSPECTS***: St Stephen, Goodwin Lake, Portage Brook and Mechanic intrusions (New Brunswick Canada), Moxie, Katahdin and Union Warren Intrusions (Maine USA)	[16, 17] [18]

Sulphide textures and sulphide modal abundance: *(i)* Disseminated: the sulphides do not contact amongst each other; [1-33] modal% ≈ [0.6-17] wt% S in whole rock (WR) analysis; *(ii)* Net-textured (also called matrix sulphide): Sulphides are interconnected and for a matrix to the silicates; [33-66] modal% ≈ [17-28] wt% S in (WR) analysis.; *(iii)* (semi)massive: > 66 modal% ≈ 28 wt% S in (WR) analysis.

(*) Svecofennian orogeny encompasses Finland and Sweden whereas Sveconorweggian (**) is the designation given in Norwegian territory. These are broadly synchronous of the Greenville orogeny in North America.

REFS: [1] Naldrett (2004); [2] Barnes & Lightfoot (2005); [3] Naldrett (1992); [4, 5] Chai & Naldrett (1992a, b); [6] Naldrett et al. (1996); [7] Papunen (2003); [8, 9] Peltonen (1995 a; b); [10] Boyd et al. (1988); [11] Boyd & Mathiessen (1979); [12] Boyd et al. (1987); [13, 14, 15] Barnes S-J (1986, 1987, 1989); [16, 17] Paktunc (1989, 1990); [18] Thompson (1984).

Table I.2- Main features of PGE mineralizations of variable mineralogical association (sulphide proportion usually is less than 5-10% occurring in (layered) (ultra-)mafic intrusions

Tectonic setting	Related magmatism	Age span	Ore morphology General/Stratigraphy		Main location within host	Dominant mineralogical association	(Pd+Pt) /(Ni+Cu)(*)	Main exploited deposits
Intracratonic anorogenic	Giant layered intrusions with high proportions of High-MgO ("U type") relative to tholeiitic magma ("T" type)	Arch to Paleo-proteroz.	Stratab	Sratif	Transition from ultramafic to mafic zones	Sulph. associated to a reef (**)	[16.4-18-5]; [354]	Bushveld Merensky and Stillwater JM Reefs Munni Munni Porphyritic websterite layer (W Australia)
					Top of ultramafic zone	Chromitite layers	[112.6]	Bushveld UG-1 + UG-2 chromitite layers and Stillwater "A" chromitite layers
					Lower portions of the uppermost (Fe-rich) mafic zone	Mgt (± Ap)	[1.5]	Bushveld "Upper Zone"
			Stratab.	Not Sratif	Basal portion of ultramafic zone	Sulph	[2-1-4.4]	Bushveld Platreef
			Discordant to Strata		Within dunitic cores that occur at various contexts	Mgt+Ilm+Chr	May reach the highest concentrations in the Complex (≤2050 ppm ΣPGE)	Bushveld dunite pipes: hortonolite dunite cores (Fo22) dunite margins (<=Fo92) enveloped by Ol-Opx-Pl pegmatoids
Rifting	Giant layered intrusions with high proportions of High-MgO ("U type") relative to tholeiitic magma ("T" type)	Arch to Paleo-proteroz.	Stratab.	Sratif	Top and transition from ultramafic to mafic zones	Sulph, NOT associated to a reef	[9.1]	Main and Lower Sulph zones of Great Dyke (Zimbabwe)
	Large to moderate sized layered intrusions with equivalent proportions of High-MgO ("U type") relative to tholeiitic magma ("T" type)	Paleo-proteroz.	Stratab.	Sratif	Base to middle portions of cyclic ultramafic zones (that grade to mafic towards the top)	Sulph., associated to a reef	[17.9-29.1]	Penitak and Portmo intrusions SJ and SK+RK reefs, respectively (Finland)
				Not Sratif	Basal	Sulph, Cu rich offset and marginal ores	?	Penitak and Koillissima intrusions (Finland)
	Large to moderate sized layered intrusions of tholeiitic composition	Paleo-proteroz. to Tertiary	Stratab.	Sratif	Midlle portions of the intrusion below sulphide saturation zone, or at convergence of crystallization fronts)	Sulph, NOT associated to a reef	Pd [100-320] ppb; Pd, Au averages 1.87, 1.8 ppm, respectively	Sonju Lake intrusion (Duluth Complex) and Skaergaard Platinova "Reefs "
				Not Sratif	Marginal breccias	Sulph	[11]	East Bull Lake and River Valley intrusions (Sudbury area, Canada)
					Several heights	Mgt	[25]	South Kawishiwi intrusion (Duluth Complex)

Table I.2- (cont.) Main features of PGE mineralizations of variable mineralogical association (sulphide proportion usually is less than 5-10% occurring in (layered) (ultra-)mafic intrusions.

Tectonic setting	Related magmatism	Age span	Ore morphology General/Stratigraphy		Main location within host	Dominant mineralogical association	(Pd+Pt) /(Ni+Cu)(*)	Main exploited deposits
Orogenic (Island Arcs)	Medium sized gabbroic (± cumulates) intrusions of (ultramafic) calcalkaline composition	Paleoz.. (Late Ord/early Sil)	Stratab.	Not Sratif	Upper portions	Cu Sulph + (Ti)-Mgt-Ap ores	Pd+ Pt [0.11-0.18] Pd/Pt = 50; Pd [5.23-18.6]ppm, Pt [0.4-0.6]ppm, Au [0.6-2.8]	Urals Platinum belt Volkovsky-Baron deposit type and Longwoods Igneous Complex (New Zeland; only soil anomalies and placers were Id)
	Small lensoid concentrically zoned intrusions (dunite, clinopyroxenite, horneblendite core and monzogabbro rims) of alkaline composition	Paleoz (Late Ord)	Discordant to Strata		Within dunitic cores	Chromitite segregations: veinlets, and (network) schlieren	Pt concentrations in chromitite [40-20000] ppb	Urals Platinum belt Nizhny Tagil deposit types

Stratab: Stratabound; **Stratif:** Stratiform.

(*) (Pd+Pt) /(Ni+Cu) (where available) recalculated for 100% Sulphs; PGE in ppm (g/t); Ni, Cu in wt%; **(**)** Reef refers to a mineralized rock layer with a distinctive texture and/or mineralogy (Naldrett, 2004)

REFS: [1] Naldrett (2004) and references therein; [2] Cawthorn et al (2005) and references therein

Table I.3- Main features of Cr in chromite mineralizations occurring in (layered) (ultra-)mafic intrusions.

Tectonic setting & Age span	Related magmatism	Main examples of exploited deposits	Main location within host igneous body	Ore associated rocks	Chromitite layers characteristics			Grades		REFS
					N	Thickness	lateral extension	Cr2O3 wt%	Cr/Fe (WR)	
Intracratonic anarogenic Arch to Paleo-proteroz.	Giant layered intrusions with high proportions of High-MgO ("U type") relative to tholeiitic magma ("T" type)	Bushveld	Basal ultramafic zone: Critical Zone	Lower Critical Zone: "Lower cluster": Bronzitite	7					
				Transition from Lower to Upper Critical zones: "Midlle cluster"-Bronzitite-Anorthosite-Norite	4	10 cm-2 m	>= 100 Km	[40-50]	[1.6-1.8] (decreases upward)	[1] [2]
				Upper Critical zone: "Upper cluster"-Bronzitite-Anorthosite-Norite	2					
		Great Dyke	Basal parts of ultramafic sequence cyclic units	Dunite	8	< 15 cm	less continuous	[40]	[2.7-13.9]	[1] [3, 4]
				Harzburgite	3	< 1.8 m	more continuous		[2.0-2.7]	
		Stillwater (mined out)	Basal parts of Ultramafic Series cyclic units	Bronzitite and peridotite	11	up to 5 m	>=30 Km	[40-45]	?	[1] [5,6]
	Small medium sized layered ultramafic sills with high proportions of High-MgO (80%) relative to tholeiitic magma	Kemi Complex (Finland)	Lower Ultramafic zone	Serpentinized Peridotite	1	<= 90 m	<= 4.5 km	[26]	[1.6]	[1] [7]
		Medrado and Ipuera of the Jacuraci Complex (Brazil)	Ultramafic zone: between Lower Ultramafic Unit (dunite>>harzburgite) Upper Ultramafic unit (harzburgite >> dunite)	Chromitite layer unit: 3 sub-layers near massive chromitite , the middle one with cotetic Opx	1	5-8 m	7 Km (full length of sill)	[30-40]	[1.7-1.8]	[1] [8]

REFS: [1] Cawthorn et al (2005) and references therein; [2] Von de Gruenwaldt et al. (1986); [3, 4] Prendergast & Wilson (1989); Wilson (1992); [5,6] Campbell & Murck (1993); Talkington & Lipin (1986); [7] Duke (1983); [8] Marques & Ferreira-Filho (2003).

Table I.4- Main features of Fe-Ti-V oxide mineralizations occurring in (layered) (ultra-)mafic intrusions.

Tectonic setting	Related magmatism	Age span	Metals	Ore associated rocks	Main location within host	Ore morphology and textures	Ore mineralogy and textures	Main exploited deposits	REFS
Intracratonic anorogenic (?)(***)	Massif-type anorthosite intrusions associated to the mangerite-charnockite-granite suite	Proteroz.	Ti (Fe, P)	Anorthosite, (Gabbro) norite, Jotunite (*), Nelsonite (**)	Basal Non-stratabound at higher levels	(semi-) massive segregations (±50wt%) that form more or less discordant bodies that sank to lower levels of the intrusion Network nelsonitic satellite dykes Disseminations throughout the intrusion	Ilm (Hem exsolutions) ± Ap >>Mgt Ilm is usually early liquidus phase but appears cumulus or intercumulus due to grain-boundary re-adjustment	Telnes (Norway) and Lac Tio (Quebec Canada)	[1] [2] [3] [4,5] [6,7]
	Upper mafic (tholeiitic) portions of (giant) mafic-ultramafic intrusions	Arch to late Paleoz (?)	V (Ti, Fe)	Melano to leucogabbro and anorthosite	Stratabound at the basis of a given magma cycle increasingly closer to the top Multiple stratabound repetitions within the same or upward cycles	Layers of variable thickness and wt% oxide content: intercumulus to net-textured ore which may become semi-massive layers or lenses	V-rich Ti-Mgt (Ilm + Pleon exsolutions) >> Ilm (Hem exsolutions). Mgt ± Ilm are early liquidus to coeval of silicate crystallization cumulus to intercumulus due to grain-boundary re-adjustment	Bushveld and Stillwater Upper Zones (Rep. South Africa, USA) Andover gabbroic zone (Western Australia)	[10] [11] [12] [16]
Rifting (often associated with CFB volcanism)	Variable sized mafic layered intrusions of tholeiitic composition	Arch to late Paleoz (?)	V (Ti, Fe)	Melano to leucogabbro and anorthosite	Stratabound at the basis of a given magma cycle Multiple stratabound repetitions within the same or upward cycles	Layers of variable thickness and wt% oxide content: intercumulus to net-textured ore which may become semi-massive layers or lenses	V-rich Ti-Mgt (Ilm + Pleon exsolutions) >> Ilm (Hem exsolutions). Mgt ± Ilm are early liquidus to coeval of silicate crystallization cumulus to intercumulus due to grain-boundary re-adjustment	Panzhihua and Hongge intrusions (China) Sherlock Intrusion (W Australia)	[12] [13] [14] [15] [16]
Syn/late-orogenic	Small layered mafic-ultramafic intrusions of tholeiitic composition that constitute a minor portion of massif anorthosite complexes	Proteroz.	Ti, P (Fe,V)	Anorthosite, Gabbro s.l. ± ultramafic cumulates, Jotunite, Nelsonite	Stratabound at the middle or upper parts of the intrusion	Layers and lenses of variable thickness and wt% oxide content (±30 wt%) Network of nelsonitic veins and dykes	Ilm (Hem exsolutions) >> V-rich Ti-mgt (Pleon and Ilm exsolutions) ≈ Ap. Oxds and Ap cotetitc of silicate crystallization but textures are affected by grain-boundary re-adjustment	Kauhajärvi and Koivusaarenneva gabbroic intrusions (Finland)	[8] and refs. within [9]
	Small to medium sized mafic layered intrusions of high-Al transitional composition (Tholeiitic-Calk-alkaline)	Proteroz. to Mesozoic	V (Ti), Fe	Troctolite, olivine gabbro, ferrigabbro or oxide gabronorite	Stratabound at the middle or upper parts of the intrusion	Layers of variable thickness and oxide content (≤:20 %) modal vol .) disseminated intercumulus to net-textured ore	Mgt ± Ilm are early liquidus to coeval of silicate crystallization	McIntosh and Somerset Dam Layered Intrusions (W and Queensland, Australia)	[17] [18]

(*) Jotunites: Fe-Ti-P-rich rock of ferrodioritic composition thought to represent parental magmas of the massive anorthosite mineralized rocks; **(**)** Nelsonites: silicate devoid Ilm + Ti-Mgt+ Ap+Rt dykes and veins. **(***)** Although massif anorthosites are apparently related to anarogenic tectonic settings, the anomalous chemistry of these magmas and, hence, the actual source of the magma together with the cause of the melting, is not broadly accepted (*e.g.* Ashwall, 1993), some authors defending a plume model setting (see Blundell et al., 2005 and references therein) in opposition with others, that suggest melting of delaminated lower mafic crust sank into the underlying mantle (Duchesne, 1999; Weihed et al., 2005)

REFS: [1] Emslie (1978); [2] Ashwall (1993); [3] Duchesne (1999); [4,5] Charlier (2005; 2007); [6,7] Charlier et al (2006; 2007); [8] Kärkkäinnen & Appelqvist (1999) and references within; [9] Kärkkäinnen & Bornhorst (2003); [10] Reynolds (1985); [11] Irvine & Sharpe (1986); [12] Cawthorn et al (2005); [13] Zhou et al. (2005); [14,15] Pang et al (2008a,b); [16] Hoatson & Sun (2002); [17] Mathison & Hamlyn (1987); [18] Mathison (1975).

I.2.2. Deposit sub-types and their basic mineralogy

The criteria supporting the main metal associations in additional sub types, as well as their fundamental ore mineralogy are universal features for each deposit subtype and, therefore, redundant if included in the tables; for that reason they are briefly introduced below.

Ni-Cu-PGE association

The Ni-Cu-PGE association is formally divided according with the relative economic importance of PGE relative to Ni+Cu. Although PGE deposits may also produce Ni and Cu as by-products, their sulphide proportion seldom exceeds 5 – 10%, in opposition to the huge sulphide modal amounts that are necessary to form an exploitable Ni-Cu deposit. The latter may include variably concentrations of PGE (among other base metals, such as Co), which add significant economic value to the deposit. Mineral deposits hosted by the Noril'sk (Russia), Sudbury and Jinchuan (China) intrusions are exceptions since Ni+Cu and PGE occur in comparable economic grades.

Ni-Cu deposits have a relatively simple fundamental mineralogy which comprises pyrrhotite with exsolutions or discrete grains of pentlandite (where Ni ± Co are present in solid solution), and chalcopyrite. Both in PGE and in Ni-Cu deposits, (where PGE are economically important), the most significant PGE-bearing phases are discrete Platinum Group Minerals (PGM) where PGE are major mineral components at tenths wt% level. PGM comprise mostly sulphides, but also polymetallic complexes with other PGE (*i.e.* PGE nuggets) or other metals of siderophile affinity (Te, Bi, Fe, As) such as tellurides, (sulpho-)arsenides, antimonides, bismuthides etc. PGM are typically of minute grain-size (<< 0.5 mm) and occur in highly variable textural contexts relative to coexisting Fe-Ni-Cu sulphides, being most common along their grain boundaries. PGE may also be present in solid solution in the main sulphide ore minerals: Os+ Ir + Ru in pyrrhotite or pentlandite; Rh ± Pd in pentlandite; Pd in chalcopyrite (Ballhaus & Ulmer, 1995; Ballhaus & Silvester, 2000). Likewise in more complex PGE deposits, PGE-rich layers/domains in Ni-Cu deposits may occur in mineralogical associations other than the main sulphide ores (see details in **Table I.2**). The most prominent context are chromitite layers where chromite is usually the main PGE carrier and the most refractory PGE (Iridium group or IPGE: Os, Ir, Ru) predominate relative to lower melting point PGE (PPGE: Pd, Pt, Rh). The association of PGE to chromite is thus not chemical (*i.e.* related with high partition coefficients for IPGE in chromite) but mechanical, *i.e.* adherence or incorporation of PGM and PGE alloys or micro clusters with chromite grains, favoured by the extremely low solubility of IPGE in silicate melt.

The economic value of a Ni + Cu ± PGE deposit is mostly controlled by: *(i)* the Ni concentration and coarseness of pentlandite, *i.e.* predominance of discrete large grains versus flame exsolutions in pyrrhotite; *(ii)* the relative abundance pentlandite + chalcopyrite relative to pyrrhotite; *(ii)* the ore textures of the sulphides relative to silicates in the host rock (from disseminated to massive; see details in **Table I.1**; *(iii)* the tonnage of bulk sulphide; *(iv)* the occurrence and grade of by-products such as PGE.

The economic value of a PGE deposit, depend on *(i)* the bulk PGE grade and tonnage; *(ii)* the well defined stratabound and particularly stratiform character of the PGE layers; reefs are better defined given their distinct mineralogical association relative to host rocks; *(iii)* the existence of exploitable by-products such as Ni+Cu or Cr for sulphide, or chromitite hosted deposits, respectively; *(iv)* provided the

accomplishment of *(i)* and *(ii)*, the strongest influence is given by the different proportions of PGEs, especially in terms of Pt and Pd since the value of a deposit increases with the Pt/Pd ratio.

The Fe-Ti-V association

The Fe-Ti-V association is generally sub-divided in deposits dominated by ilmenite (therefore mainly explored for Ti), and those that are mostly enriched in Ti-magnetite (being of main interest for V, which occurs in solid solution in the magnetite). This distinction is mostly based on an economic perspective since Ti in solid solution in magnetite (ulvöspinel component) cannot be presently recovered (Charlier, 2007). As it is shown in **Table I.4**, there are of course gradations, besides of the additional weight given by the economic value of P (in apatite) which often concentrates in large amounts in ilmenite rich deposits.

The economic value of Fe-Ti-V-(P) deposits is mostly determined by *(i)* V deposits; the V_2O_3 wt% content of Ti-magnetite and the modal amount of coexisting ilmenite which grants added value in terms of Ti grades; *(ii)* for all deposit subtypes; the amount of metals present in the oxide ores that are pollutant in terms of metallurgy such as Al or Mg, and therefore detract the value of the deposit; *(iii)* for all deposit subtypes: the modal abundance and texture of the oxide layers/lenses in the host rock, which further defines the bulk tonnage of the deposit. It should be noted that Ti contents in ilmenite are much less variable and higher (*ca.* 50 wt% TiO_2) than V in magnetite (*ca.* 1 wt% V_2O_3); nonetheless, the deposit tonnage is essentially equivalent to the modal amount of ore oxides in the host rocks for both cases. Ore textures in both deposit types display strong annealing of the oxides which becomes more conspicuous as the oxide : silicate ratio increases forming (semi-)massive layers or lenses. Oxide-silicate textures are quite more variable and dependent on the mineral (assemblage) crystallization order. Even tough there is a tendency for oxides to cluster into triple-point junction textures, layers with very large amounts of oxides may exhibit net-texture (wherein oxides form a nearly-continuous matrix where silicates are embedded).

Cr ± PGE association

Chromite is the single ore mineral in Cr deposits and their economic value determined by: *(i)* the Cr_2O_3 wt% content of chromite (or Cr/Fe_T ratio in whole rock) versus the amount of penalizing metals such as Al or Mg and; *(ii)* the modal abundance and texture of chromitite layers in host rock, which define the bulk tonnage of the deposit; *(iii)* the occurrence and grade of by-products such as PGE. Chromite grain size is usually considerably smaller than magnetite; however, it shows a noticeable increase followed by development of intragrain triple junctions as the chromite : silicate ratio increases, suggesting that annealing is equally important on the development of chromitite layers. (It should be noted that economically important podiform chromitite deposits in ophiolites are not here under consideration).

I.2.3. Ore-forming processes

Using the above introduction and the information contained in **Table I.1** to **I.4**, the metallogenesis of each deposit type may be briefly outlined, according to the most recent lines of thought reported in literature. From inspection of **Table I.1** to **I.4** the following relations are prominent:

(i) Within intrusions with well developed ultramafic and mafic portions, Cr, PGE and V mineralizations typically occur at the basal (ultramafic), middle (ultramafic – mafic transition) and upper portions (mafic), respectively. The latter (V) occur mainly at the base of magmatic cycles, both within the

mafic portions of large ultramafic intrusions or in mafic intrusions.

(ii) Ti (± P ± V) deposits are restricted to high TiO_2 magmas in massif anorthosite complexes of Proterozoic age (where ilmenite is an early liquidus phase) or their associated small layered mafic intrusions.

(iii) PGE and particularly Cr deposits are largely restricted (or are otherwise significantly more economic) in ultramafic intrusions with high proportions of high MgO picritic magma, suggesting that extensive mantle melting is required to extract a partial melt sufficiently enriched in those highly compatible elements. Indirect evidence for such high melting proportions is further provided by the pervasive Archean to Paleo-Proterozoic ages of host intrusions when mantle melting is believed to have been higher than in Phanerozoic times (*e.g.* Lesher et al., 2001).

(iv) Important Ni-Cu ± PGE deposits occur associated with mafic intrusions crystallized from high MgO tholeiitic magmas that were emplaced in distensive tectonic settings and/or along major crustal discontinuities. Asides from Cu-rich offset ores (common to most deposits sub-types), most economic Ni-Cu ± PGE deposits are those where large amounts of net-textured to (semi)massive sulphide are concentrated at the basal domains of the intrusion, whereas stratabound mineralized portions located at higher levels of the same intrusion (or, in intrusions devoid of basal mineralization), are usually much less (or even sub) economic.

From magma to ore deposit, key questions

In order to understand the nature of the metallogenic processes of magmatic ore deposits it is firstly necessary to establish which features characterizing a "normal" unmineralized intrusion are found to be significantly distinct in the mineralized intrusions. As it will be soon understood, these are perhaps the most outstanding characteristics of these ore types since all processes that are required to occur in order to build up an economic deposit are strictly of the magmatic realm.

Firstly, the ore metal enrichment factors relative to their typical concentration in magma must be considered. This may be predicted by comparing typical concentrations of ore metals in mafic/ultramafic magmas with common thresholds in mining exploration as shown in **Table I.5**.

s

Table I.5- Typical concentrations of ore metals in mafic/ultramafic magmas, threshold in mining exploration and rough enrichment factors necessary to attain an ore deposit with exploitable concentrations (data from Cawthorn et al., 2005 and Barnes & Lightfoot, 2005).

METAL	Concentration ranges in fertile magmas	Typical exploration grades	Required enrichment factor to build an ore deposit		
			min	max	median
PGE	[0.2 – 50] ppb (≈ [0.0002 – 0.05] ppm)	[2 – 20] g/ton (≈ [2 – 20] ppm)	40	10000	**1000**
Cr	[200 – 1000] ppm rarely up to 3500 ppm	[25 – 35] wt% (≈ [25 0000 – 35 0000] ppm)	100	1750	**1000**
Ni	[100 – 350] ppm	[0.5 – 3] wt% (≈ [5000 – 30 000]ppm)	20	300	**150**
V	[200 – 400] ppm	[0.1 – 1] wt% (rarely 1.5 ppm) (≈ [1000 – 10 000] ppm (15 000) ppm)	3	75	**25**

The "ore potential" of a magma firstly depends on its initial ore metal contents which are chiefly controlled by the source characteristics and degree of mantle melting. It is estimated that, depending on

the content of S in mantle peridotite, *ca.* 15 to 25 % of mantle melting will consume all mantle sulphide and ensure high PGE and Ni contents in the basaltic melt (Arndt et al., 2005). It is likely that mantle sulphides melt incongruently and that discrete, very small PGM grains are left in restite along with PGE nanoparticules/clusters. These residual phases are enriched in the most refractory IPGE relative to PGE-bearing sulphides which, at lower melting degrees, release the less refractory PPGE into the melt (see Cawthorn et al., 2005 and references therein). In order to eliminate residual refractory IPGE bearing phases and chromite, (generating a picritic melt with high Cr and IPGE contents), very high degrees of mantle melting are required to occur. With the exception of Ti and V, that are related with more evolved melts, as a rule, "ore potential" increases with the degree of partial melting

Secondly, the normal cotetic proportions for various ore minerals clearly evidence that simple accumulation cannot explain the genesis of magmatic ore deposits, (even if high degrees of partial melting ensure initially high metal concentrations in the melt). Indeed, normal cotetic proportions are [0.05 – 0.5] wt% for chromite, [8 – 13] wt% for magnetite (Toplis & Carrol, 1995) and [0.05 – 1] wt% for sulphide liquid (Mavrogenes & O'Neill, 1999; Naldrett, 2004); cotetic proportions for PGM are poorly constrained but should be of the order of a few ppb (see Cawthorn et al., 2005 and references therein for PGE and Cr).

Thirdly, sulphur enrichment and the mechanisms that drive a magma into sulphide saturation are central to the genesis of Cu-Ni ±PGE (less so in PGE *s.s.* deposits) given the large proportions of immiscible sulphide melt that are required to segregate from the silicate magma. The concentration of sulphur in a magma is not referred in **Table I.5** since it varies widely depending of its source and evolving stages towards the surface. Sulphide segregation is a normal process during fractionation of most mafic-ultramafic melts; however, due to the constraints on the abundance of S in primary magma, only very small amounts will segregate, usually at a late stage of the magma crystallization. This is critical for Ni-Cu ± PGE deposits since after as much as 40 wt% of olivine fractionation, the Ni of a magma is lowered to about 20% of the initial content and economic Ni-rich sulphides can no longer precipitate (Barnes & Lightfoot, 2005). Hence, for an economic Ni-Cu ± PGE deposit to form, it is not sufficient that the primary mantle-derived magma contains high contents of ore metals, but also that the timing of sulphide saturation is favourable, *i.e.* that the magma is driven to sulphide saturation before extensive olivine fractionation and Ni depletion in the magma takes place.

Experimental and empirical studies (see reviews by Naldrett, 2004 and Li and Ripley, 2005) have shown that the solubility of sulphide (*i.e.*, S^{2-} content at sulphide saturation) in mafic-ultramafic magmas: *(i)* increases with aFeO, $f S_2$, and only mildly with temperature and; *(ii)* decreases exponentially with increasing pressure, moderately with $a SiO_2$ and (less so) $f O_2$. The solubility of sulphate (*i.e.*, S^{6+} content at sulphate saturation) may be up to 10× greater than the solubility of S as sulphide and rises with increasing of $f O_2$ and alkalinity (see Arndt et al., 2005 and references therein). From these relationships, it is straightforward that, regardless of the initial S content of a magma, during its ascent to surface, the probability of segregation of immiscible sulphide melt decreases due to the stronger influence of lowering pressure relatively to temperature decrease (that increases S^{2-} solubility). However, if the mafic magma undergoes crustal contamination soon enough before becoming Ni-depleted by olivine fractionation, sulphide saturation is promoted by the combination of various factors: *(i)* as predicted by the decrease of sulphide solubility with increasing $a SiO_2$, (and $a Na_2O$), felsification due to crustal rock assimilation may

drive the mafic magma towards the compositional field of sulphide saturation; *(ii)* nonetheless, (concomitant) direct addition of sulphur to the melt by the same process[1] will of course be the most effective process (*per se*) to bring about sulphide saturation, (as demonstrated by the prevailing heavy isotopic S signatures of Ni-rich deposits). It should be noted that if sulphur is added to magma as sulphate (*e.g.* via evaporite assimilation), reduction to S^{2-} must take place in order to promote sulphide melt segregation. As demonstrated by the study of Duluth and Noril'sk deposits, sulphate reduction was attained by simultaneous addition of organic matter or graphite to the magma from associated evaporite levels (*e.g.* Ripley & Li, 2003, or see detailed descriptions of these ore deposits in Naldrett, 2004).

Finally, comparison of experimentally measured partition coefficients for sulphide associated ore metals cannot adequately explain the much higher metal concentrations, particularly PGE bearing sulphides. This discrepancy indicates that, following sulphide segregation, some mechanism should allow significant upgrading of meal tenors in sulphide ores. It is conceivable that the immiscible sulphide droplets interact with very large amounts of magma and effectively scavenge the available ore metals, particularly those with strongest calcophile behaviour such as PGE. This process (somewhat akin to zone-refining) is commonly referred to as the *R* factor (Campbell & Naldrett, 1979) and is defined by the amount of silicate magma that interacts with sulphide melt (silicate magma : sulphide melt). High *R* factors allowing the development of high grade sulphide will require dynamic magmatic environments where thorough mixing of sulphide droplets can occur. The income of fresh, calcophile undepleted magma surges, further promotes the upgrading process of pre-existing sulphide melt.

These four key-questions allow a simple understanding of the basic metallogenic processes that give rise to the main four sub-deposit types that are briefly outlined below (following the order presented in **Table I.1** to **Table I.4**).

Ni-Cu ± PGE deposits

Ni enriched deposits form when highly S undersaturated tholeiitic to picritic magmas, (resulting from moderate to high degrees of mantle melting), are efficiently transported throughout the crust along deep-crustal discontinuities. This scenario avoids minimal fractionation of olivine before crustal contamination. As it can be seen in **Table I.1**, most relevant Ni-Cu-(PGE) deposits are indeed associated to rifts or tectonic boundaries that were invaded by primitive magmas often related with mantle plumes. Most of these deposits are also spatially associated to sedimentary sequences (*e.g.* volcanic-sedimentary sequences within rift basins such as in Noril'sk) or old granitic/gneissic crust (*e.g.* Voisey's Bay). Hence, interaction of the hot, primitive, (or relatively unfractionated) magma with crustal rocks allows early sulphide saturation at shallower magma chambers.

Contrastingly, in regions of thickened crust (*e.g.* orogenic environments) or when magmas leave the mantle too close to sulphide saturation, cooling and contamination in deep crustal chambers may cause segregation of sulphide liquids at greater depths. The bulk of those sulphide melts are more likely to remain at deep, (normally at inaccessible levels) and no Ni-Cu deposit develops. Even if significant sulphide melt rises or segregates to higher levels, it will have low Ni grades and be virtually devoid of

[1] The exact mechanism of sulphur transfer from country rocks to the magma is not fully understood and may involve diffusion of a vapour S-rich phase, hybrid S-rich partial melt, pure assimilation of S-rich rocks (*e.g.* metasediments) or most likely a combination of several processes. Since it unquestionably involves interaction with country rocks it is simply addressed here as any other crustal contamination/assimilation process, (see discussion and references in Barnes & Lightfoot., 2005).

PGE (minimum amounts of sulphide segregation at depth will cause PGE depletion of upraising magmas due to their much higher calcophile behaviour relative to Ni or Cu). Derivation from (nearly?) S-saturated mantle and segregation of small amounts of sulphide at depth is therefore pointed out as the main cause for the prominent PGE depletion and generally low Ni tenors of orogenic Ni-Cu deposits found in the (see **Table I.1**) Svecofennian/Sveconorweggian (Papunen, 2003; Peltonen, 1995 a; b; Boyd et al., 1988), Caledonian (Boyd et al., 1988; Boyd & Mathiessen, 1979; Boyd et al., 1987; S-J Barnes 1986, 1987, 1989) and Appalachian (Paktunc, 1989, 1990; Thompson, 1984) orogens.

Domains of sulphide-bearing, variable-textured rocks or magmatic breccias are present at the margins of most economic Ni-Cu-(PGE) deposits (**Table I.1**). These features document the dynamic character magmatic environment, with multiple magma injections. Vigorous convection in magma chambers or turbulent transport along magma conduits allows interaction of sulphide droplets with large volumes of magma, resulting in the upgrading of their initial metal contents and development of deposits with high *R* factors (see above). In some cases, transport and redeposition of sulphides in different positions (*e.g.* Voisey's Bay) may occur, as new magma surges invade the chamber.

Following the enrichment and upgrading process, the sulphide melt must finally concentrate in localized domains. Where early segregation of sulphide melt occurs, the higher density of sulphide relative to silicate melt promotes its concentration in the basal domains of the chamber as massive and net-textured ores. Lowering of magma flow and, decreasing capacity to transport dense sulphide droplets along conduits, will also promote settling of sulphides along footwall embayments, (or upon entering larger chamber domains were feeder dykes widen). Within magma chambers, waning of convection may result in sulphide collection that adds up to the massive sulphide at the basal portion. However, it is more common that settling of droplets or larger blotches occur along stratabound levels at higher portions of the intrusion. As a rule, stratabound domains or stratiform layers ± small lenses above the basal domains of the intrusions indicate that sulphide segregation took place during more advanced and less favourable stages of crystallization. That is clearly the case where only loosely disseminated blebs or small intercumulus are found at high levels of the intrusion. Disseminated blebs/blotches may still occur in more heavily mineralized (≤ 30 wt%) and well defined stratabound domains, suggesting they were segregated from later magma surges which still result in moderate *R* factors and therefore economic viability.

Magma dynamics related to the *R* factor does not account for the genesis of offset footwall ores (penetrating up to >2 km away from some intrusions), which are thought to result from syn and late tectono-magmatic remobilization of highly fractionated Cu-rich sulphide melt into the host rocks, as dykes or stockworks (*e.g.* Naldrett, 2004). The same applies to unrooted massive sulphide lenses found up to 1 km outside the host intrusion in highly deformed terrains, such those of the Vammala Nickel Belt. These intrusions are thought to represent former (now disrupted) magma channelways where mineralized domains were completely separated from the host intrusion during strong pos-magmatic regional deformation, (favoured by the low rheological competence of sulphide lenses; see **Table I.1** for details and references). As a rule, the tenor of disseminated sulphides may be significantly upgraded during metamorphism if olivine is destroyed, allowing Ni to be released to the sulphides (Barnes & Lightfoot, 2005), as is the case of many Caledonian-related intrusions in the Fenoscandian and the Appalachian shields (see **Table I.1** for details and references).

PGE deposits

Chromite-dominant reefs (devoid of sulphide) are chiefly observed within the Great Dyke of Zimbabwe. They occur below the first appearance of cumulus plagioclase and before sulphide saturation is achieved. The IPGE-rich character of these reefs and their occurrence at the lowermost ultramafic portions of the intrusions support derivation from magma batches extracted by very high degrees of mantle melting, which mobilized the most refractory IPGE along with Cr (see details of the nature of this mineral association in section **I.2.1.**)

Following the onset of sulphide saturation, low melting point, highly calcophile PPGE are preferentially concentrated into the sulphide melt. Stratiform (reef) deposits usually lie at the transition between the lower ultramafic to upper mafic sections of very large, Pre-Phanerozoic intrusions, generated by high degrees of mantle melting. Some reefs, as the UG-2 in Bushveld (the largest single known PGE resource in the world) are also chromite-rich. These rare reef types develop by a combination of processes which account for the formation of chromitite layers (see below) and those bearing only sulphide associations, as follows. Sulphide reefs are associated with rocks dominated by orthopyroxene relative to clinopyroxene and their remarkable lateral continuity and location within the middle portions of the intrusions excludes any type of structural control or country rock assimilation. The origin of sulphide reefs is ascribed to mixing between residual MgO, SiO_2, Cr-rich magma (accounting for the lower ultramafic section, U-type magma; Irvine & Sharpe, 1986) and new batches of tholeiitic (Cawthorn et al., 2005) or T-type magma (Naldrett, 2004). Despite different interpretations on the magma components, there is consensus that mixing tends to promote sulphide segregation, whereas turbulence allows reaching huge *R* values (up to 10^6, beyond which there is no further increase in PGE contents), that strongly upgrade the sulphides PGE content relatively to Ni and Cu. The concentration of PGE on such localized stratigraphic domains is ascribed to subsequent quiet settling on top of the underlying cumulate pile. Although relatively consensual, this model requires mixing of a column with *ca* 3 km thickness (in the case of the Merensky Reef) of two distinct magmas, which poses an extraordinarily mechanical problem. This and other still poorly understood features of PGE deposits have lead to other interpretations (*e.g.* partial dissolution of an initial low PGE sulphide melt leaving behind a sulphide residua with much higher PGE grade; see Cawthorn et al., 2005 and references therein), that are out of the scope of this introductory section but illustrate well the complexities of PGE deposits formation.

Stratabound, but not stratiform, PGE deposits are also thought to result from magma mixing processes, the main difference being the failure of quiet settling following sulphide saturation and upgrading. The same applies to PGE deposits located at the marginal zones of the intrusion, where sulphides may have been carried by lateral spreading of the hybrid melt. As can be seen from **Table I.2**, stratabound deposits are typical of intrusions with a less significant contribution of primitive high-MgO magmas relative to tholeiitic magma (*e.g.* East Bull Lake intrusions, Canada or those in the Fenoscandian shield, Finland).

A slightly different mechanism is proposed for some stratiform sulphide-bearing reefs formed at even higher stratigraphic levels of the intrusion, often nearby magnetite rich layers (*e.g.* Sonju Lake in the Duluth Complex, Upper Zone of the Bushveld, or the Platnova reef in Skaergaard, see **Table I.2**) for which there is no evidence for magma mixing (Upper Zone in Bushveld case). As indicated by their high stratigraphic location within the intrusion, these reefs developed after an extended period of crystal

fractionation where segregation of sulphide was delayed. When sulphide saturation finally occurs, the residual magma is strongly enriched in PGE (mostly Pd) which is fully partitioned into the late-segregated sulphide melt, along with Cu and Au, (but not Ni, which is meanwhile depleted by olivine crystallization). A similar process accounts for the genesis of some of the Ural-Alaskan PGE deposits where Pd concentrates occur in nelsonitic like layers (Volkovsky type deposits) or in discordant zones of Ti-magnetite + apatite + Cu ± Pd sulphide (Baron type deposits; Naldrett, 2004).

The nature of discordant PGE deposits, such as the Bushveld dunite potholes or the Ural-Alaskan Nizhny Tagil deposit types (**Table I.2**), demand the involvement of an aqueous fluid phase. The origin of the latter deposit type is poorly understood, being unclear if the associated chromitite schlieren are in their original position or, as the sulphides, were remobilized by late magmatic aqueous fluids (Naldrett, 2004). The Bushveld dunite potholes represent plutonic channels where late-magmatic exsolved fluid from trapped liquid escaped upwards by fluid overpressure. As a rule, when a late-magmatic fluid ascends, sulphide and PGE in the cumulate pile are resorbed; whereupon reaching the cumulate-magma interface the dissolved sulphur promotes immediate and localized sulphide saturation that precipitates in association to pegmatoid volatile rich rocks (Boudreau, 1999). In the case of Bushveld potholes, fluid percolation resulted in conspicuous replacement bodies (Schiffries, 1982; **Table I.2**) which, (upon cutting trough the Merensky Reef) replaced the silicate assemblage (but not chromite), with mobilised pre-existing PGE giving a major contribution to that already transported by the fluid.

Cr deposits

As seen in **Table I.3** (and noted in section **I.2.1**), stratiform chromitite deposits developed within intrusions of Archean to Early Proterozoic age derived from high- MgO magmas and typically occur at the basis of each magmatic cycle.

Due to the very low cotetic proportions of chromite in ultramafic magmas [0.05 – 0.5]% precipitation of massive, and often very thick, chromitite layers poses a mass balance problem which preclude a major role for crystal sorting and accumulation: *(i)* to crystallize a 1 m thick chromitite layer with about 45 wt% Cr_2O_3 from a magma with *ca.* 900 ppm Cr it is required to process a magma column of about 2.5 km; *(ii)* in spite of chromite high density relatively to olivine, its small grain size would result in extremely slow settling rates; only for the thickest chromitite layers (*e.g.* Kemi intrusion- **Table I.3**), accumulation may have an enhanced role as suggested by the thinning of the layers towards the edge of the intrusion. The most widely accepted explanation for the genesis of chromitite layers is the suppression of silicate precipitation during chromite super-saturation related to magma mixing. As for the genesis of sulphide reefs, there are different opinions regarding the new magma composition (U or T type) that mixes with the residual resident magma; however, in this case, assuming a tholeiitic composition Cr contents are very low (≈250 ppm as in a continental tholeiitic basalt) which makes mass balance problems even worse.

Fe-Ti-±P and V-Fe±Ti deposits

Mass balance and enrichment factor problems for these deposits are minor compared to those of the above described deposits; it should be noted, that despite of the much higher Ti contents in ilmenite relative to V in magnetite, the exploration grades for each deposit sub-type are proportional. The greatest

mass balance problem resides on the explanation of the relative amount of precipitated oxides and silicates. Taking V deposits as an example, to form a magnetite layer in the 60 km sized Phanzhihua intrusion (*e.g.* Zhou et al. 2005) from a magma with *ca.* 20 wt% FeO_T (Toplis & Carol, 1996; Tegner, 1997), the enrichment factor for Fe is simply 4. However, following a relatively short period with magnetite as the main liquidus phase, bulk FeO_T may be lowered as much as 2 wt%; thus still requiring the processing of a magma column of about 2.5 km to form the magnetite layers.

For several decades, the generic understanding of Fe-Ti-V oxide deposits was strongly influenced by the (massive) discordant character of ilmenite-rich bodies in massif-type anothosites (**Table I.4**), which sustained earlier conceptions that immiscible Fe-Ti-V-(±P) rich melts could segregate from silicate melts. Although immiscible iron and silica melts have been reported in the late stages of evolution of tholeiitic magma (Jakobsen et al., 2005) it is yet to be proven that it may account for large accumulations of Fe-Ti oxides given the very small-scale at which the process seems to occur.

The primary controlling factor on the formation of ilmenite rich deposits (Fe-Ti ± P) is the highly anomalous TiO_2 of the parental magmas of Fe-Ti-P-rich ferrodioritic (jotunitic) composition which account for an atypical sequence of crystallization where ilmenite and apatite are early liquidus phases (Charlier, 2005; Charlier et al. 2006 and references therein). Phosphorus has an important role as it suppresses magnetite crystallization (Toplis, et al., 1994), whereas low oxygen fugacities favour ilmenite (instead of magnetite) saturation (Toplis et al., 1995; 1996). Estimated cotetic proportions of ilmenite in the earliest of magma fractionation stages are quite high (*ca* 17.5 wt.%; Charlier, 2005), thus crystal sorting and accumulation must occur predominantly at the basal portions of the deposit given the early liquidus character of ilmenite. The discordant and often basin-like nature of the ilmenite massive bodies is ascribed to extremely effective filter-pressing of ilmenite from the adjoining rocks, aided by plagioclase flotation. Additionally, gravity-induced subsidence of the ores and up-doming of the anorthosite massif leads to successive re-adjustments in the body (*e.g.* satellite dykes crosscutting other units) until late magmatic stages (Charlier, 2005).

Conversely to Ti-ilmenite deposits, the V-rich magnetite layers cannot be ascribed to anomalously high V concentrations in melt. Also, there are no evidence for magma mixing which would have suppressed silicate precipitation during the massive layers development (as in chromite deposits). Although some authors defend that the mechanical effects largely overcome those of intensive variables (Pang et al., 2008b), experimental data clearly show that early magnetite supersaturation is trigged by (sudden?) fO_2 increases in the melt. Magnetite cotetic proportions fall with decreasing temperature and maximum modal amounts of 40 – 45 wt% may crystallize under conditions open to O_2 (*e.g.* buffered by FMQ). Magnetite modal proportions decrease with decreasing fO_2 and are significantly lower in systems closed to O_2 when compared to systems open to O_2, at equivalent temperatures (-1 ΔFMQ; Toplis & Carrol, 1995, 1996).

Magnetite layers/lenses develop at the base of magmatic cycles. Strong depletion of V contents in magnetite (and therefore in the ore layers grade) occurs towards the top of each cycle, until the arrival of fresh, V-undepleted magma take place at the beginning of new cycle (*e.g.* Reynolds, 1985). The rest of the ore-forming process is ascribed to concentration mechanisms, by settling and sorting of dense, large titanomagnetite grains/aggregates along stratabound or stratiform layers. Following magnetite precipitation, there is a depletion of FeO_T and SiO_2 enrichment in the magma proportional to the amount

of precipitated magnetite (thus much less pronounced in conditions closed to O_2) which decreases the magma density and facilitates effective settling of dense oxides.

Present day demand on Vanadium

Planning and implementation of exploration (and research) activities have high costs. Therefore, what are the economic indicators that may justify the investments? Because the exploitation of Ti-ores requires very high grades and significant tonnage (and its recovery is predominately made on ilmenite) the answer to that question should depend on vanadium economics.

Vanadium is a transition metal whose physical properties enable its use in several industrial applications, particularly as ferrovanadium (FeV) or as steel additive that, together, absorb about 80% of the global world production of this element. This means that vanadium prices depend mostly on steel trading, and on the global supply/demand balance of metals (such as manganese, molybdenum, titanium and tungsten) that are to some degree interchangeable with vanadium as alloying elements (*e.g.* Mateus et al. 2001b); FeV can be replaced by FeNb in some high-strength steels. In 2005, and part of 2006, this replacement led to a temporary slowdown in the increase in vanadium consumption. As vanadium prices decreased in 2007 and niobium prices increased, the growth trend in vanadium substitution slowed and in some cases reversed. However, a switch to production of higher-strength reinforcing bar (rebar) in concrete and masonry structures in China is likely to increase demand for both vanadium and niobium in the future (Bunting, 2007). With the expected growth in steel production for the next 3 to 5 years, strong demand for vanadium is expected to continue (Polyak, 2007) in the following years, and vanadium should maintain, at least, its present position in the international market.

Although nearly all the world's supply of vanadium was from primary sources, five countries recovered vanadium from ores, concentrates, slag, or petroleum residues (Australia, China, Kazakhstan, Russia, RSA and USA). In four of the five countries, the mining and processing of magnetite-bearing ores was an important source of vanadium production; Japan and the United States were thought to be the only countries to recover significant quantities of vanadium from petroleum residues (Polyak, 2007). Only small quantities of vanadium-containing alloys were recovered from recycling.

The world vanadium reserve base, at more than 38 million metric tons (Mt), is sufficient to meet vanadium demand into the next century at the present rate of consumption. This does not account for the increased recovery of vanadium from fly ash, petroleum residues, slag, and spent catalyst that is expected to extend the life of the reserve base significantly. At present, vanadium world resources exceed 63 million Mt, but considering that this metal is usually recovered as a by-product or a co-product, the amounts reported in official bulletins (*e.g.* U.S. Geological Survey – Mineral Commodity Summaries, January 2009) are not fully indicative of the available supplies. The main reserves of this metal are located in China (37%), Republic of South Africa (32%), Russia (18%), United States of America (11%), and other Countries (3%). In the latest years, vanadium production in China has risen sharply, surpassing the Republic of South Africa (RSA), the former major producer. Even though China's own V-bearing, iron-ore deposits are not as rich as some iron-ore deposits in other countries (*e.g.* RSA), the pressure to expand their own production has lead to the production of vanadium-bearing slag in China to grow since 2002, at almost exactly the same rate as the overall Chinese demand for iron ore. The huge increase in steel production, has lead not only more vanadium consumption, but to a seemingly proportionate

increase in iron-ore, and vanadium production. Analysts believe this trend will continue, not only in China, but also in Russia and South Africa, the current second and third main producers (Bunting, 2007).

II. METHODOLOGIES

II.1. Mapping and sampling

Rocks belonging to LGS western compartment outcrop discontinuously, being covered by Cenozoic sediments or lands shaped by strong Human intervention. For reasons of practical convenience to this work, the isolated portions of the LGS are informally labelled as **sectors**. Four sectors are thus distinguished from NW to SE: Soberanas, Odivelas, Ventoso and Ferreira (do Alentejo)–Beringel (see outcrop map, **Figure A.1, Appendix A**). The first three sectors correspond to small windows within the sedimentary cover, whereas the fourth corresponds to the more continuous portion bounded to the E by the Messejana Fault Zone, including the Ferreira do Alentejo and Beringel locations (even though the mapped area does not actually reach Beringel). The criteria used to comprehensively map and sample these four sectors are described below.

II.1.1. Mapping

II.1.1.1. Generic considerations

Topographic basis

Geological mapping was performed using as topographical base the (true colour) series of the aerial photograph of the Serviços Cartográficos do Exército (http://www.igeoe.pt/) at an approximate 1 : 30 000 scale, published in 1998. The mapped area is covered by the following sheets of the 1 : 25 000 Portuguese military map: 497 (Odivelas- Ferreira do Alentejo), 498 (Grega- Ferreira do Alentejo), 508 (Figueira dos Cavaleiros- Ferreira do Alentejo), 509 (Ferreira do Alentejo) and 520 (Ervidel- Aljustrel). Following each field survey, the mapped area was geo-referenced and edited using Intergraph's Image Analyst (http://intergraph.com/ianalyst/default.asp) and the academic version of Bentley's Microstation (http://www.bentley.com/en-US/Products/MicroStation/) available in 1995, respectively. Final edition was carried out using vector based drawing programs such as CorelDraw.

Geological mapping of the Soberanas sector was carried out by Dr. Vítor Oliveira (IGM/INETI retired Principal Researcher) on topographic maps at a 1 : 5 000 scale.

All maps presented in this work have for geographic reference the orthogonal coordinate system relative to the "central point" (Hayford projection, Lisbon datum) that is common to the military topographic map and the geological maps published by IGM/INETTI.

Structural conventions

All structural measurements are given in azimuth notation, following the conventions strike-dip-sense and plunge-trend for planar and linear measurements, respectively. Structural data measurements were analysed using the GEOorient 9.2 software developed by Dr. Rod Holcombe at the Department of Earth Sciences, University of Queensland (http://www.earth.uq.edu.au/~rodh/software/). Unless otherwise stated, all reported average directions for structural measurements refer to the **preferred mean direction**, *the orientation of the largest eigenvector to the distribution function of the data treated as axial (non-polar) lines*, as defined by Fisher et al. (1987). All stereographic projections are performed in the lower hemisphere of an equal area Schmidt net. Contoured plots resulting from GEOorient 9.2 are obtained by contouring the data density (in 1% area) at the intersections of a superimposed square grid; single, isolated points are not plotted.

II.1.1.2. Mapping criteria

Comprehensive geological mapping of LGS carried out on the four sectors followed several criteria systematically tested by combining field data with petrography and mineral chemistry data. Gabbroic facies were identified and mapped as individual units, delimiting lateral facies variations whenever significant for the mapping scale. The following criteria were used:

(i) Colour index (melano, leuco).

(ii) Mineralogy (modal layering), including the presence and relative abundance of the (accessory) metallic minerals. Oxide minerals have proved to be a primary feature that could be successfully used as a field criterion in many LGS domains; facies labelling and nomenclature issues are addressed in section **II.2.**

(iii) Textural features, like the prevailing poikilitic or phenocrystic character of some minerals, indicating a specific paragenetic position in the crystallization sequence.

(iv) Structural features related to the magmatic layering and lamination development: massive, isotropic character versus well-developed layering and/or lamination at mesoscale, or mineral segregation (resulting in nearly monomineralic interbedded micro-layers or bands). These features are distinctive of some of the mapped gabbroic facies and reflect the prevailing physical(-chemical) conditions during their crystallization.

(v) Presence of anorthosite layers or ultramafic cumulate lenses/pods. These rock types hardly represent geological units of cartographic relevance *per se*, being, however, a prominent feature of some of the mapped gabbroic facies. Hence there are useful for assessing their relative position in a (tentatively reconstructed) stratigraphic column of LGS.

(vi) Although some gabbroic facies display rather heterogeneous character, grain-size layering was not considered a distinctive mapping criterion for facies individualization because of the common vertical gradation observed at mesoscale, sometimes supporting deduction of the intrusion polarity.

Facies organization and labeling

Based on field criteria, mineral composition and geochemical affinities, the gabbroic facies mapped were assembled as Series, further divided in Groups if necessary, allowing the separation of the lower, intermediate and upper portions of a given Series.

Each mapped facies may encompass some degree of variation of the individual rock types that were sampled. The name of each mapped facies reflects the most prevailing or distinctive rock type observed in the field. Most generic names of facies are in agreement with the IUGS classification scheme with the exception of the facies classified under the generic designation of “pyroxene (porphyry) gabbro”. This choice is justified by their most distinctive character in the field or under the microscope: the presence of large clinopyroxene ± orthopyroxene aggregates (up to 3 cm) and/or the porphyry nature of the clinopyroxene. According with IUGS classification, the large majority of outcropping area covered by “pyroxene (porphyry) gabbro” facies will fall on the *olivine gabbro* field; local variations in which clinopyroxene ± orthopyroxene modally exceeds olivine + plagioclase will thus correspond to *olivine gabbronorite*/*olivine norite* and *clinopyroxenite*. Nonetheless, in the geological and petrographic descriptions of this or other mapped facies, all observed variations are listed and referred according with their proper classification.

Approach in outcrop-deficient domains

Significant areas of LGS outcrop deficiently (see outcrop map, **Figure A.1, in Appendix A**). These domains are usually intersected by abundant *(i)* tectonic corridors, with emphasis to those striking WNW-ESE showing multiphase, hydrothermal carbonate-quartz infillings (Mateus et al., 1999c, section **II.4.5.2- Vol. I**), and; *(ii)* late felsic/mesocratic dyke swarms that cause significant fracturing and metasomatism of the adjoining gabbroic rocks (section **II.4.4.- Vol. I**). Both features contribute to a high permeability increase of the gabbroic rocks, thus enhancing weathering, which ultimately leads to the development of thick soil profiles. Moreover, the dry climate conditions which prevailing during Cenozoic times, promoted the development of abundant carbonate concretions (or calcrete). At several places, namely in the NW domain of the Ferreira-Beringel sector (signed in the geological map **Figure A.4, Appendix A** by a distinct sediment pattern), relics of those concretions are now observed, intermixed or still capping the soils and masking the gabbroic rocks where observed.

In these poorly outcropping domains, mapping was essentially based on boulder recognition. Structural corridors were identified by field validation of lineaments previously identified in aerial photograph, as well as verification of strong to very strong gradients in total magnetic intensity maps (available at IGM-INETI).

Quarries: oasis in the desert

Quarries allowed a very detailed recognition of LGS stratigraphy, complementing surface observations and being of most importance in domains where outcrops are scarce. Detailed geological mapping and sampling was made on the following quarries:

(i) The “Castelo Ventoso” quarry located by EN2 at ca. 7 Km North of Ferreira do Alentejo (Ventoso Sector), exploited by Ferbritas SA (http://www.ferbritas.pt/por/frames_port.html).

(ii) The “Herdade Monte da Serra”, hereafter labelled “Serrabitas” quarry located by EN121 at ca. 4 Km West of Beringel (Ferreira - Beringel Sector), exploited by Serrabritas - Comércio de Inertes, Construção Civil e Obras Públicas SA.

(iii) The “Figueirinha” quarry located by the geodesic marker with the same name, ca. 2 Km East of Ferreira do Alentejo (Ferreira - Beringel Sector), exploited by Carlos Rey & Artur Rey Lda.

(iv) Several small abandoned unlabelled quarries accessible in the SW part of the Odivelas sector were also inspected and sampled whenever justified. Labels of these quarries was made only for ordering purposes on this work and does not correspond to any designation on topographic maps. Labelling of the (now dumped) exploration mine shafts opened during the 1944 iron campaign on type I mineralization (section **IV.3.1.- Vol. I**) at the Odivelas sector, follow the original designation of the report of Silva & Carvalho (1946).

The Figueirinha quarry was mapped and sampled in detail as the remaining quarries that intersect the other Series. This quarry, sited outside, although very near to the Border Group (section **II.4.3.4.- Vol. I**), is the place of confluence of several major shear and fault zones, the majority of them with associated alteration haloes of metric extension. Furthermore, many dykes of felsic and mesocratic rocks (anorthosite-tonalite-trondhjemite suite- ATT suite, see section **II.4.4.3.- Vol. I**) often hybridized with gabbro and showing strong deformation, intrude the gabbroic facies at the quarry. These factors, along

with the deficient outcropping conditions in the entire westernmost domain in which the quarry is sited, contribute to the strong disturbance of the original gabbroic sequence, making stratigraphic correlation very difficult. Therefore, conversely to other quarries that allowed unravelling the details of the gabbroic sequence, the Figueirinha was mostly helpful on the characterization of tectonic and late-magmatic events that affect LGS.

An important note must be made regarding the area surrounding the Serrabritas quarry: during the course of field work, the company that explores this quarry started an intensive program of land preparation for agriculture in an area with *ca.* 9 km^2 by excess. This process involved the removal of virtually all boulders and outcrops that were subsequently processed in the milling infrastructure of the quarry. Consequently, it is of great importance to stress that most of LGS features that were observed in situ and marked as outcrops (outcrop and geological maps, **Figure A.1** and **A.4, Appendix A**) in the referred area are now utterly gone.

II.1.2. Sampling

Sampling to characterize the main rock types in each sector was made preferentially in fresh outcrops, quarries included. The scarcity of outcrops and extensive agriculture activity precluded sampling of some domains. The least represented domains are: *(i)* the SE portion of the Odivelas sector; *(ii)* the contact with the diorite at the Ventoso sector and; *(iii)* a wide N-S corridor on the western portion of the Ferreira-Beringel sector. To avoid, within reason, what may result in some bias of the represented facies, some boulders were collected either directly from the soil or in “despedregas”, the rock piles that farmers gather when cleaning lands. On the other side of this spectrum is the sampling made in quarries that was often performed on a layer base to allow the detailed study of petrographic and geochemical variations.

Most samples of gabbroic facies, mesocratic and felsic dykes were collected for petrographic and geochemical analyses in some cases for geochronological dating and isotopic analyses. However, nearby the contacts of LGS with other geological units, remarkable features documenting the relationship of LGS rocks with late intrusive rocks were observed and large samples were collected with the purpose of illustrating textural relationships at a macroscopic scale. Following this reasoning, the distribution of all samples depicted in the sampling map of **Figure A.2** (**Appendix A**) obeys to a code of colours that translates the nature (gabbroic or non gabbroic) and the purpose for which the sample was collected: macroscopic or petrographic study (usually including mineral chemistry analysis), and if whole-rock geochemical analysis was performed. The same colour-code is followed on **Figure A.3** (**Appendix A**) were samples are placed on LGS reconstructed stratigraphic columns for different sectors (**II.4.1.- Vol. I**).

As mentioned in section **I.1.- Vol. I**, data referring to samples collected during the MSc project are included in the database of this work. At the Odivelas sector samples were collected mostly with the purpose of delimiting anomalous mineralized oxide-rich domains (type I mineralization), therefore they are mostly distributed along the Odivelas stream. A smaller set of samples was also gathered to characterize the metasomatic halo that involves the sulphide mineralization at the Castelo Ventoso quarry (type II mineralization).

As can be seen from the sampling map in **Figure A.2** (**Appendix A**), the Ferreira-Beringel sector was sampled throughout four sub-parallel N-S profiles. Profiles P1, P2 and P3 represent near-complete

traverses of LGS in this sector. Profile P0+W is more incomplete and essentially comprises the section exposed at the Figueirinha quarry, plus some other samples that were collected westwards of P0 *s.s.*. A complete inventory of all samples with reference to the analytical procedures that they were used to characterize them is listed in **Table A.1, Appendix A**.

As mentioned in the main text, geochemical and isotopic data from other authors were used to complement those acquired in the scope of this work. On the basis of detailed geographical information, the clear geochemical similarities displayed by REE (see **Figure III.85**, **III.3.1.4**-**Vol. I**) and normalized incompatible element patterns (**Figure III.86**, **III.3.1.4**-**Vol. I**) between LGS rocks analysed by Pin et al. (2008) and those reported in this work, it is possible to correlate those samples within the framework of the internal architecture proposed for LGS with a high degree confidence.

Listing of mesocratic rocks samples analysed by other authors used in this work, referring their lithological features as originally described and the category where they are here included are described in **III.3.2**-**Vol. I**). Additional details concerning the correlation of samples are provided here. Pin et al. (2008) reports data for "felsic pods" intruding BAOC at Serpa region with similar age and geochemistry to the pegmatoid (#CVD-5) collected at the Ventoso quarry, which were accordingly included in this category. Two samples of dyke-hosted mesocratic rocks which are described as leucodiorite (#Beja 28- Pin et al., 2008) or dioritic pegmatoid (#43A-39- Santos, 1990), both collected at the classic outcrop adjoining the Ferreira do Alentejo- Beringel national road, firstly described by Silva et al. (1970). On the basis of the features reported by the authors and the detailed inspection of this outcrop during field work, it seems straightforward that these rocks may be included in the ATT suite. In fact it shouldn't be fortuitous the reference of Santos (1990) to important shearing along the dyke plans which results in strong deformation and sub-granulation of plagioclase, matching the descriptions of mortar textures observed in these rocks. A porphyry dacite (#43-A21) included in the OD-4 Unit or "plagiogranite" dyke complex as defined by Andrade (1983), for which only REE data are provided, is also analyzed in this section. Although evident, it is worth reinforcing that the omission of samples studied by each of these authors in some plots is simply owed to the lack of data in the published elemental panel. For instance, analytical data for samples studied by Santos (1990) or Santos et al. (1990) do not include REE determinations (except for the above mentioned porphyry dacite), while those studied by Pin et al. (2008) lack determinations for Ba, Cr or V analysis.

II.2. Rock classification

II.2.1. Gabbroic rocks

The classification of gabbroic rocks included in each mapped facies was made according with IUGS recommendations (Le Bais & Streckeisen, 1991) on the basis of their modal composition. Reference to the different rock types included in each facies can be found in field or petrographic descriptions of each Series in **Volume I**, a comprehensive listing being available in **Appendix B- Table B1**.

II.2.2. Non-gabbroic rocks

Non gabbroic rocks that are referred to as diorite, granodiorite, ATT suite and felsic rocks (hosted in dykes and sills) were classified in the QAPF diagrams (mafic minerals < 90%) according with IUGS

recommendations, after Streckeisen (Le Bais & Streckeisen, 1991), based on modal estimate by petrographic observation.

II.3. Sample preparation

The methodologies adopted to prepare the various samples for distinct analytical procedures are briefly described in the following sub-sections. Unless otherwise stated, all procedures here described took place at the laboratory facilities of the Geology Department of FCUL.

II.3.1. Samples for macroscopic and petrographic study

Samples were cut into *ca.* 25 mm slabs with diamond wheel saws. Following preliminary macroscopic analysis of the slabs, representative domains were selected to make polished thin sections. Some samples of type III mineralization were selected for preparation of polished surfaces and polished slabs for macroscopic appreciation of ore textures.

II.3.2. Pulps for whole rock and isotopic analyses (Rb-Sr, Sm-Nd and $\delta^{18}O$)

Weathered or otherwise altered domains were cut-rejected from the samples using diamond wheel saws, those areas being further cleansed in emery wheels to remove possible contaminants from the saws. After being washed and (oven) dried, samples were crushed cautiously. Splitting of coarse fragments was performed through smashing the samples wrapped in paper with a hammer and, whenever necessary, with a hard-steal roll crusher to obtain a grain size of 1-2 mm. Final pulverization was made in a carbide-tungsten mill.

A set of 34 samples for whole-rock analyses were prepared at the Aguablanca facilities of the Rio Narcea Gold Mines Ldt.. These include all sampled rocks from BRG II Series (32), three samples of type III mineralization from the Figueirinha quarry (3), and two troctolite samples of the Border Group (2; **Figure A.2, Appendix A**)

II.3.3. Mineral concentrates for isotopic analysis

Several concentrates of different mineral phases were prepared for isotopic analysis. The amount of sample used for mineral separation was approximately 10 kg to obtain zircon concentrates and 0.5 - 1 kg for all other mineral concentrates. All samples were subjected to a common procedure consisting of: cut-cleaning of weathered/altered zones, sawing of slabs, cleaning in emery discs and washing and oven drying followed by coarse splitting with a hammer (in the case of samples for geochronological dating of zircons, with a Retsch jaw-crusher). Rock fragments were sieved and ground in a roller-crusher in order to maximise the amount of the desired size-fraction: $106\mu m < x < 150\ \mu m$ for separation zircon concentrates and $90\mu m < x < 150\ \mu m$ for other mineral concentrates. The desired granulometric fraction was subsequently washed in compressed air stirred water-columns for dust removal (the last washings with deionised water) and, finally, oven dried. Minerals of strong magnetic susceptibility, namely magnetite and pyrrhotite were removed with a hand magnet to avoid clogging of the Frantz isodynamic separator further ahead in the separation process. Also common to all samples was the orientation of the magnetic field in the Frantz isodynamic separator, using a forward slope of 25º and 10º side tilt. The individual process used to concentrate the various mineral species for the distinct isotopic analyses is

described below.

II.3.3.1. Zircons for U-Pb SHRIMP dating

Five samples that evidenced the highest fractionation degree were selected for zircon separation (**Table II.1**); however, zircons were found only in the pegmatoid sample (CVD-5; details in section **II.3.- Vol. I**). Because the distinct nature of the samples required, slight adjustments to the general protocol, were introduced in order to obtain a zircon concentrate for each sample in the heaviest (denser) and less magnetic susceptible (≥ 1.85A) fraction.

Table II.1- Samples selected for zircon separation (zircons were recovered only in CVD-5).

SAMPLE	SECTOR	SERIES	GROUP	FACIES	GEOGRAPHICAL LOCATION
ODV-D5	Odivelas	ODV I	Lower	Proximal amphibolic gabbro (adjoining Ol Leucog)	Odivelas river right margin
ODV-G-31	Odivelas	ODV II	-	Anorthosite (Ol Gb I - Ol Leucog II transition)	unlabelled abandoned quarry at Odivelas sector
CVD-5	Ventoso	ODV III	Upper	Pegmatoid dykes (crosscut Px Gb II)	Castelo Ventoso quarry
SB-8	Ferreira-Beringel	BRG I	Upper	Anorthosite within Ol Leucog III	Herdade Monte da Serra quarry
CNT-4C	Ferreira Beringel	BRG II	Upper	Anorthosite (Ol Leucog III–Px Porph Gb transition)	Cabeço de Serpe

Plagioclase has a similar magnetic susceptibility relatively to zircon; therefore it is fundamental to utterly eliminate it from the sample before beginning magnetic-based separation in the Frantz. Separating large amounts of sample in the Franz is an extremely time-consuming process however; heavy liquids are expensive and require a more elaborated laboratorial set-up. Therefore, the choice of performing first the magnetic (Frantz) relatively to heavy liquid separation was based on the mineralogical nature of the samples:

(i) Samples essentially composed of plagioclase, were first subjected to density based separation in order to remove most of the plagioclase, and thus leave a small heavy mineral residua that could be rapidly fed in the Frantz at successively higher amperages.

(ii) Samples with a nearly equivalent proportion of mafic and felsic minerals (mafic minerals ≥ 40%; *e.g.*CVD-5 and ODV-D5) were subjected to a first run in the Frantz at 0.5A to eliminate most amphibole and pyroxene, thus reducing by circa 50% the amount of sample to be separated with heavy liquids.

The first density based separation was performed with the heavy liquid sodium heteropolytungstate (LST Fastfloat[1]) at a density of ≈ 2.82 g/ml at T ≈25ºC. The heavy-mineral fraction was then (for the second time, in the case of amphibole-rich samples) magnetically separated by making successive runs in the Frantz until a last fraction was obtained at 1.85 A. Final concentration of the

[1] LST is a water-soluble compound that is sold as a strongly concentrated liquid or as dry pebbles which are then brought to the desired density by the operator by simple addition of water. This heavy liquid is easily recyclable by simple evaporation and, contrarily to bromoform, is non-toxic. It is therefore strongly recommended as an healthier and long-term less expensive choice relatively to the classic bromoform (for details consult www.polytungstate.co.uk)

heaviest minerals was made using the heavy-liquid diiodomethane at ≈ 3.31g/ml density. This fraction was then purified by hand picking through a binocular lens at the Geochronological Research Centre of the University of S. Paulo (Brazil).

II.3.3.2. Sulphide concentrates for Pb-Pb and $\delta^{34}S$

Representative samples of the two sulphide mineralization types were selected for $\delta^{34}S$ and Pb-Pb isotopic characterization (section **IV.4.1.5- Vol I**). The sulphide rich portion of the samples was extracted to minimize the amount of silicates to be separated. The aim of the mineral separation was to obtain pyrrhotite ± pentlandite and chalcopyrite mineral concentrates from each sample; pentlandite is mostly present as small grains or exsolutions in pyrrhotite, therefore concentrates along with pyrrhotite. A nearly pure pyrrhotite concentrate was produced by manual magnetic separation. The remaining portion of the sample was then subjected to several runs in the Frantz at successively higher amperages, to remove residual silicates. Chalcopyrite was concentrated in a residual fraction at 1.85A along with some plagioclase. Final purification of this fraction was performed using the heavy-liquid diiodomethane with a density of ≈ 3.31g/ml.

II.3.3.3. Silicate concentrates for $\delta^{18}O$

Whole-rock and mineral concentrates were analysed for stable oxygen isotopes (section **III.4.2 Vol I**). Preparation of the pulps was similar to those for whole rock analysis. Plagioclase + pyroxene or plagioclase + amphibole concentrates were prepared for different samples. Density separation with sodium heteropolytungstate (LST Fastfloat) at 2.82 g/ml at T ≈25ºC produced a plagioclase and amphibole/pyroxene rich fraction that was further purified by magnetic separation in the Frantz until 1.85A and 0.5A amperages, respectively.

II.4. Analytical procedures and conditions

II.4.1. Whole-rock analysis

All BRG II Series rocks (including the three samples of type III mineralization from the Figueirinha quarry), plus the troctolite samples of the Border Group were analysed by the Rio Narcea Gold Mines Ldt laboratories. Major and minor elements were analysed by ICP (Inductively Coupled Plasma Mass Spectrometry) following aqua-regia digestion; noble metals (Au, Pd, Pt) were quantified by fire-assay.

All the remaining samples were analysed at the Actlabs facilities in Canada using distinct analytical packages. “Gold plus 53 other elements” were used to characterize ore samples of mineralization types I (Fe-Ti-V massive oxides) and II (Cu-Co massive sulphide veins) previously collected in the MSc project, combining INAA (Instrumental Neutron Activation Analysis) and ICP-MS (Au + 53 1H2 analytical package). For the ICP portion of the analysis, a total digestion process with hydrochloric, nitric, perchloric and hydrofluoric acids was employed. Even with this vigorous digestion, several refractory minerals (such as chromite) may not go into solution, reason why some elements were duplicated by INAA analysis. Sulphide samples of type III mineralization were also analyzed for noble metals with the “Nickel Sulphide Fire Assay” (1B analytical package) and FeO was determined by titration in the massive oxide ores.

All samples of gabbro, diorite or metasomatized rocks were analyzed for major and trace

elements by ICP-MS following lithium metaborate/tetraborate fusion, a digestion method that ensures that the entire sample is dissolved and that REE and other high field strength elements present in resistate phases are put into solution (codes 4B and 4B2 LITHORES). According to Actlabs recommendations, heavily mineralized gabbro rocks (either in sulphides or oxides) were analyzed in specific package (code "QUANT") to prevent semi-quantitative determination for some chalcophile elements. For these rocks, As, Sc, Cr and Sb were analyzed by, INAA as well as Br, Ir, Se and Au, elements that were recently included in this package, therefore not available for the three samples that were analyzed with the QUANT option during the MSc project. Exclusively for samples of gabbro and mineralized gabbro (*i.e.*, including those for which QUANT option was required) analyzed during the PhD, additional determination of sulphur was made by total digestion ICP (code 4B1). This option includes additional determination of other elements, namely Cu, Ni, Zn, Pb, Ag, Cd; however, since none of the samples exceeded the upper limits of the fusion-ICP-MS technique for these elements, only S and Cd (exclusive of this package) are used for most interpretation purposes in order to maintain internal consistency among the all samples analyzed. All analyses obtained by the various methods are listed in **Appendix D.**

A note on analytical discrepancies

The comparison of whole rock data for samples that were analysed in different laboratories/methods posed some problems that are below summarised.

The Cr contents of both BG troctolite samples are extremely low compared to any SB I troctolite and therefore inconsistent with the relative abundance of chromian spinel in these rocks. The discrepancy of Cr contents in BG troctolite relative to near equivalent SB I troctolite can only be explained by the method used to digest samples prior to their chemical analysis: *(i)* aqua regia does not attack several resistate mineral phases like chromite, zircon, gahnite, monazite, etc.; *(ii)* poor sample grinding could also enhance the inefficiency of the chemical attack because chromite is seen to occur usually as small inclusions in olivine or plagioclase. Both BG troctolite samples are part of the analytical data supplied by Rio Narcea Ldt. which further includes all rocks from BRG II Series and type III mineralization discovered at the Figueirinha quarry. Even though detection of analytical discrepancies in other minor elements concentration is rather difficult due to the lack of direct evidence or equivalent rocks to establish comparisons, several other elements typically concentrated by Fe-Ti oxides such as Sc, V, Ti and to a lesser extent, Co and Zn, evidence uniformly lower concentrations relatively to any other LGS Series. Notwithstanding these elements are mostly incorporated in Fe-Ti oxides, Sc for example is strongly dependent on clinopyroxene accumulation, a widespread feature in BRG II Series pyroxene gabbro rocks. This raises the additional possibility of significantly sensitivity differences in the analytical methods utilized by different laboratories.

II.4.2. Probe micro-analysis

II.4.2.1. Electronic probe micro-analysis- EPMA

Polished-thin sections of representative samples of gabbroic, dioritic and felsic rocks were selected to characterise the compositional variation of the main silicates, oxides and carbonates (analyses listed in **Appendix C**). Polished sections and polished thin sections of both types of sulphide mineralization were also selected to analyse the main silicates, oxides and the various assemblages of

sulphide minerals.

All silicates, carbonates and oxides were analyzed at the EPMA laboratory of the Centro de Geologia of FCUL, using a three-channel wavelength-dispersion JEOL-JCXA 733 electron microprobe, operated with an accelerating voltage of 18 kV and a beam current intensity of 25 nA. For calibration of silicate analyses, natural mineral standards were used, namely, wollastonite (Ca, Si), kaersutite (Ti, Na), kyanite (Al), olivine (Fe, Mg), rodonite (Mn) and adularia (K), as well as metallic Cr and Ni. For calibration of oxide analyses, the following natural mineral standards: were used magnetite (Fe), spinel s.l. (Mg, Al), chromite (Cr), ilmenite (Ti), rodonite (Mn). Measures of VKα were made in a metallic V standard and corrected for the interference with TiKβ Ni and Zn metallic standards. Estimated error of the values obtained is less than 2% for major elements

Sulphide minerals (and few associated oxides) included in type II and III mineralizations were analysed at the Laboratório of INETI (S. Mamede Infesta, Porto). During the course of this project, INETI replaced its electron microprobe. Therefore, a first set of sulphide analyses were conducted in a three-channel Cameca Camebax electron microprobe operated with an accelerating voltage of 15 kV and a beam current intensity of 15 nA. Later on, during the year of 2007, a final set of sulphide analyses was obtained using new equipment, a five-channel JEOL JXA-8500F electron microprobe operating with an accelerating voltage of 20 kV and a beam current intensity of 20 nA. For calibration of sulphide analyses, sphalerite (S, Zn) and pyrite (Fe) natural mineral standards were used. Metallic and synthetic standards were used to calibrate the following elements Ni, Cu, Co, Pt, Pd, Ag, Au, Bi, As (As, Ga), Cd. When using the JEOL JXA-8500F electron microprobe, CdS was used for calibration of Cd and, occasionally, additional determinations of Si, Ta or Br were made using metallic standards or direct computation based on peak acquisition (in the case of Br). For analyses of the few oxides that coexist with the sulphides, natural mineral standards were used, namely, sphalerite (Zn), vanadinite (V), apatite (Ca), wollastonite (Si), as well as the synthetic compounds $MnTiO_3$ (Mn, Ti), Al_2O_3 (Al), MgO (Mg) and Cr_2O_3 (Cr). Estimated accurateness of the values obtained is better than 97.4%. Backscattered electron photographs were obtained in selected domains of the sulphide mineralizations using the backscattered electrons detector attached to the JEOL JXA-8500F electron microprobe at the INETI Laboratory.

For all the analytical sessions in both laboratories, standards were analyzed before, during and after each session.

II.4.2.2. Protonic probe micro-analysis Micro-PIXE

Elemental analysis of sulphide samples (mineralization types II and III, see **IV.4.1.4**) was performed by Doctor Luís Cerqueira Alves on polished thin-sections using micro-PIXE (Particle Induced X-Ray Emission) technique available at the Instituto de Tecnologia Nuclear- ITN (Sacavém). Apart from producing maps of elemental distribution to characterize the chemical nature of (sub-)microscopic exsolutions in selected zones of the sulphide aggregates, the main goal was to ascertain the presence of Pt and its distribution in the observed sulphide grains. For this purpose a scanning nuclear microprobe was used.

The experimental set-up consists in an Oxford Microbeams® nuclear microprobe type (Alves et al., 2000) that is used to focus a 2 MeV proton beam generated by a Van de Graaff accelerator. X-ray spectra were accumulated with an 80 mm2 Si(Li) detector and 155 eV resolution located at a backward

angle of 45º and at a distance of 25 mm from the sample. Beam spatial resolution was initially set to 3 μm with beam currents close to 200 pA. The focused beam was raster scanned over some previously defined regions of interest of the samples (selected in petrography and electron microprobe studies) and two-dimensional X-ray elemental maps obtained. From those maps, some spots were chosen to perform micro-PIXE point analysis. X-ray spectra were accumulated with a Si(Li) detector that initially had a 50 μm Mylar X-ray filter.

Basic acquisition of data and mapping were done with the OM-DAQ program (Grime & Dawson 1995), while spectra fitting and quantitative results were obtained with the GUPIX computer package (Maxwell et al. 1995), which accounts for matrix and secondary fluorescence corrections.

II.4.3. DRX and Mössbauer spectroscopy

Representative samples from type I mineralisation were selected to confirm and fully characterise the maghemitic nature of the mineral paragenesis The samples were crushed cautiously (coarse fragments obtained with an hydraulic rock-crusher were wrapped in paper and then smashed with a hammer to a grain size of 1-2 mm) and prepared separately for whole-rock chemical analysis, X-ray diffraction (XRD) and Mössbauer spectroscopy. Analyses were performed and interpreted Doctor João C. Waerenborgh at the chemistry department of ITN (Sacavém).

DRX

Fine powders, spread on silicon plates (Philips PW 1817/32), were used to obtain XRD patterns with a Philips PW 1710 powder diffractometer using CuKα radiation, a curved graphite crystal monochromator and a PW1820 Bragg-Brentano goniometer; subsequent phase identification was based on the Mineral Powder Diffraction File Databook (Bayliss et al. 1993).

Mössbauer spectroscopy

The presence of a large number of Fe-containing phases may seriously hinder the interpretation of ^{57}Fe Mössbauer spectra. In cases where both hematite and magnetite or maghemite are present, it is difficult to characterize these oxides even if the whole range in temperature from 293 to 6 K is scanned. In order to separate the grains with the highest magnetic susceptibility, the 1-2 mm grain-size concentrates were broken in a cylinder rock-crusher and sieved. The physical separation of grains using a hand magnet was performed on the 63 μm < ϕ < 90 μm size fraction with the grains immersed in ethanol in order to prevent grain aggregation. Two fractions were thus obtained, ***HMag***, composed of grains with higher magnetic susceptibility (including all grains of the spinel), and the remaining grains, designated as fraction ***LMag***.

^{57}Fe Mössbauer spectra of both ***HMag*** and ***LMag*** powdered samples were obtained in transmission mode using a conventional constant-acceleration spectrometer and a 25 mCi ^{57}Co source in Rh matrix. The velocity scale was calibrated using an α-Fe foil at room temperature. Spectra were obtained at various temperatures between 293 K and 5 K. Low-temperature measurements were performed using a liquid helium flow cryostat. Absorbers were prepared by pressing the sample powders ($\approx$ 5 mg of natural Fe / cm^2) into perspex holders. The spectra were fitted to Lorentzian peaks using a non-linear least-squares computer method (Waerenborgh et al., 1994). The widths and relative areas of

both peaks in each quadrupole doublet and of peaks 1-6, 2-5 and 3-4 in each magnetic sextet were constrained to remain equal.

II.4.4. Radiogenic isotopes analysis

All obtained analyses are listed in their respective sections in **Vol. I.**

II.4.4.1. SHRIMP U-Pb Zircon Geochronology

Zircon U/Pb isotopic data were obtained with the Australian National University SHRIMP I instrument, using a ~30 μm diameter spot. Calibration methods and analytical procedures are those described in Stern (1998) and Williams (1998). $^{206}Pb/^{238}U$ ratios have an error component (typically) 1.5% to 2.0%, from calibration measurements using standard zircons. This error was added into each analysis and not to the final calculated data. U abundance was calibrated against 238 ppm U (< ±10 %) fragments of the single crystal SL-13 standard, and Pb/U was calibrated against the multi-crystal standard AS57 (1100 Ma, Paces & Miller, 1993). All errors take into account non-linear fluctuations in ion counting rates beyond that expected from counting statistics (*e.g.* Stern, 1998). Age calculations were performed using the Ludwig (1998) ISOPLOT/Ex program.

II.4.4.2. Lead isotopes in sulphide concentrates

Lead isotope analyses were carried out at the Geochronological Research Center of the University of São Paulo (Brazil). Lead isotopic analyses were carried out using procedures similar to those described by Babinski et al. (1999). 300 mg sulphide was ultrasonically washed in triple distilled water and then dissolved using 3 ml of 6N HCl plus 2 ml of HNO_3, on a hot plate, at 100ºC, for 24 h. Pb was separated using ion exchange resin (Dowex 1·8 AG) in hydrobromic acid medium. After separation, Pb was loaded onto zone refined rhenium filaments using the silica gel technique and analysed for isotope ratios on VG 354 Micromass and Finnigan-MAT 262 thermal ionization mass spectrometer.

Mass fractionation corrections (1.0060 $^{206}Pb/^{204}Pb$, 1.00132 $^{207}Pb/^{204}Pb$, and 1.0030 $^{208}Pb/^{204}Pb$) were made from runs of the NBS-981 lead standard the overall instrumental reproducibility of lead isotope ratios determined from repeated analyses (n=50) of the NBS-981 standard was better than 0.1 % (2σ). The isotopic data were regressed using the “Isoplot” geochronological toolkit of Ludwig (1998).

II.4.4.3. Rb-Sr in whole rock

Strontium isotopic analyses were carried out on multicollector VG 354 Micromass and Finnigan-MAT 262 mass spectrometers at the Geochronological Research Center of the University of S. Paulo (Brazil; Kawachita, 1972). Strontium isotopic ratios were normalized to $^{86}Sr/^{88}Sr = 0.1194$, giving a mean $^{87}Sr/^{86}Sr$ for NBS-987 of 0.71028 ± 0.00006 (2σ) blanks were 5 ng. Rb and Sr concentrations were determined by ICP-MS at Actlabs in a Perkin Elmer ELAN 6000 or 6100 ICP-MS mass spectrometer: a 0.25 g aliquot of sample was digested in 10 ml $HClO_4$-HNO_3-HCl-HF at 200°C to fuming and then diluted to 10 ml with dilute aqua regia.

II.4.4.4. Sm-Nd in whole rock

Neodymium isotopic analyses were carried out on multicollector VG 354 Micromass and Finnigan-MAT 262 mass spectrometers at the Geochronological Research Center of the University of S.

Paulo (Brazil; Sato et al., 1995). Sm-Nd analyses were conducted by standard methods according to the analytical procedures described by Kawashita (1972) and Sato et al. (1995). Neodymium isotopic ratios were normalized to a $^{146}Nd/^{144}Nd$ = 0.72190 giving $^{143}Nd/^{144}Nd$ averages for La Jolla and BCR-1 of 0.511847 ± 0.00005 (2σ) and 0.512662 ± 0.00005 (2σ), respectively blanks were less than 0.03 ng

II.4.5. Stable isotopes analysis

II.4.5.1. $\delta^{34}S$ in sulphide concentrates

Sulphide samples were analysed at the Activation Laboratories Ltd, Ontario. Pure sulphide samples are combusted to SO_2 gas under ~10^{-3} torr of vacuum. The SO_2 is inlet directly from the vacuum line to the ion source of a VG 602 Isotope Ratio Mass Spectrometer (Ueda, 1986). Quantitative combustion to SO_2 is achieved by mixing 5 mgs of sample with 100 mgs of a V_2O_5 and SiO_2 mixture (1:1). The reaction is carried out at 950ºC for 7 minutes in a quartz glass reaction tube. Pure copper turnings are used as a catalyst to ensure conversion of SO_3 to SO_2. Internal Lab Standards ($SeaWater_{BaSO4}$ and $Fisher_{BaSO4}$) are run at the beginning and end of each set of samples (typically 25) and used to normalize the data, as well as to correct for any instrument drift. All results are reported in permil (‰) notation relatively to the international Canon Diablo Troilite (CDT) standard. Precision and reproducibility using this technique is typically better than 0.2 ‰ (n = 10 internal lab standards).

II.4.5.2. $\delta^{18}O$ in silicate concentrates and whole-rock

Oxygen was liberated from minerals or whole-rock samples using the BrF_5 laser fluorination method of Macaulay et al. (2000) after Clayton & Mayeda (1963). The samples were loaded on a Ni fluorination line after dehydration, outgassed at room temperature and reacted with BrF_5 at 650ºC. Oxygen isotopes ratio was measured on CO_2 gas. Analyses were performed using a VG SIRA 10 mass spectrometer at the Centre de Geochimie de la Surface – Strasbourg (France). Results are reported in δ notation relative to VSMOW (Vienna Standard Mean Ocean Water). Analytical reproducibility for the oxygen isotopes measurement in the analyzed samples is ± 0.5 ‰. The error quoted corresponds to the deviation observed between two extractions carried out in different Ni tubes. The values obtained were normalized (or by replicate analyses of NBS -28) in the NBS-28 reference (+9.6 ‰ ± 0.3 vs VSMOW).

A. APPENDIX- MAPS AND SAMPLING

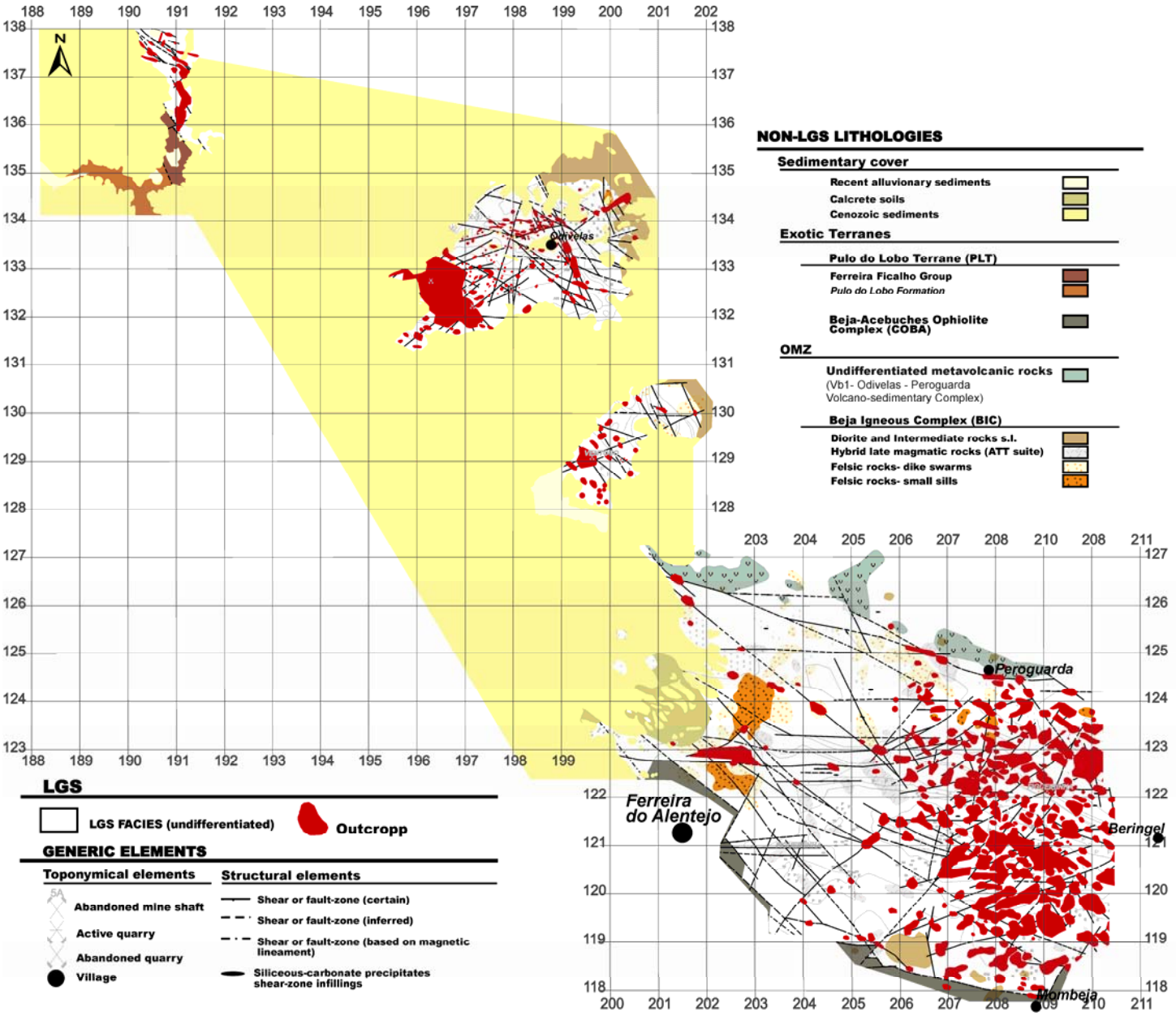


Figure A.1- Outcrop distribution, including quarry and old mine shafts, within LGS mapped area. Grid coordinates according with the international gauss-ellipsoid, Lisbon datum.

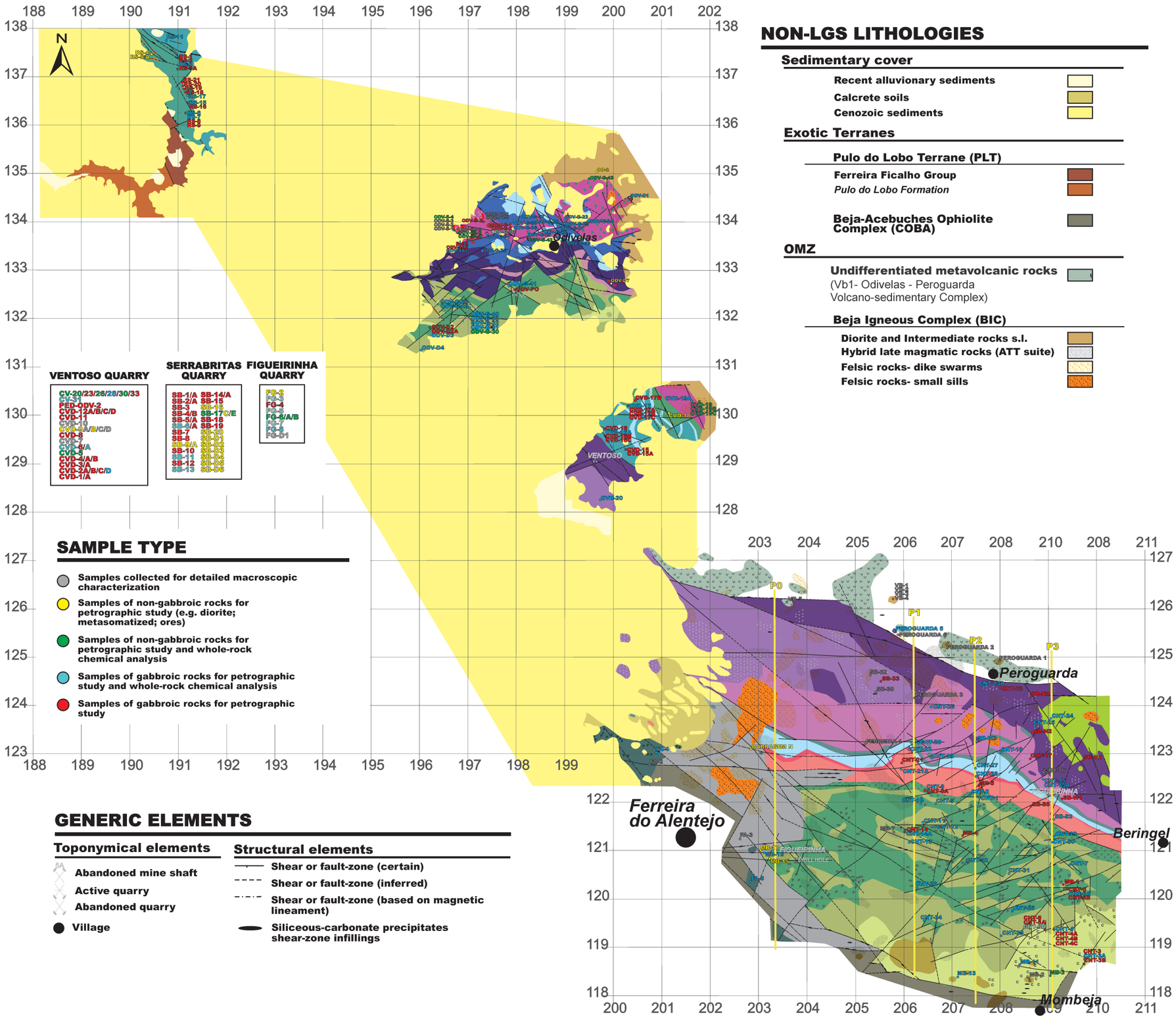


Figure A.2- Sample distribution in the four sectors of LGS western compartment following a colour code that conveys their subsequent characterization (inset label). For the Ferreira – Beringel sector, the main sampling program followed four sub-parallel profiles. Additional, detailed sampling on quarries is listed in insert boxes labelled with the quarry name. Grid coordinates according with the international gauss-ellipsoid, Lisbon datum.

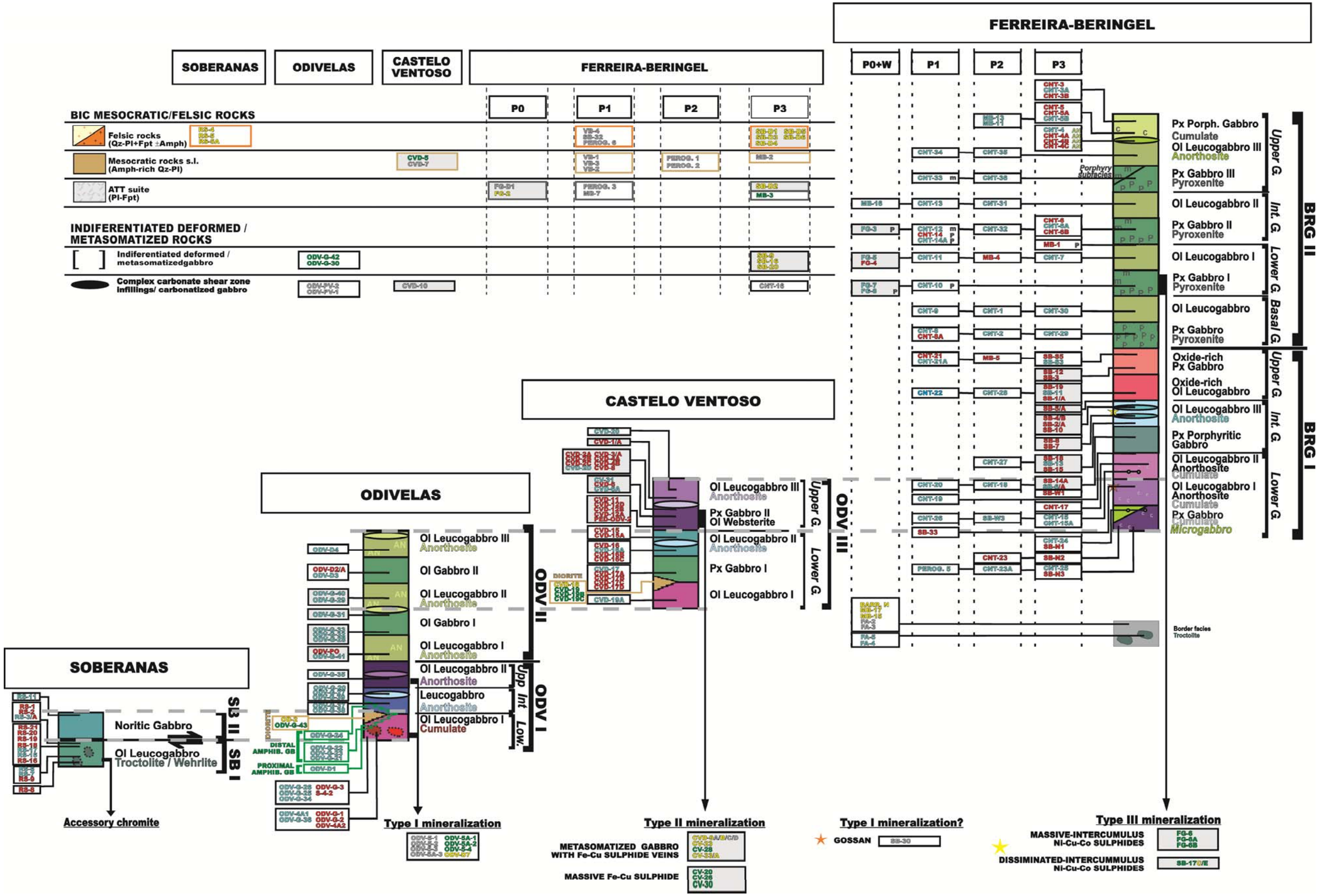
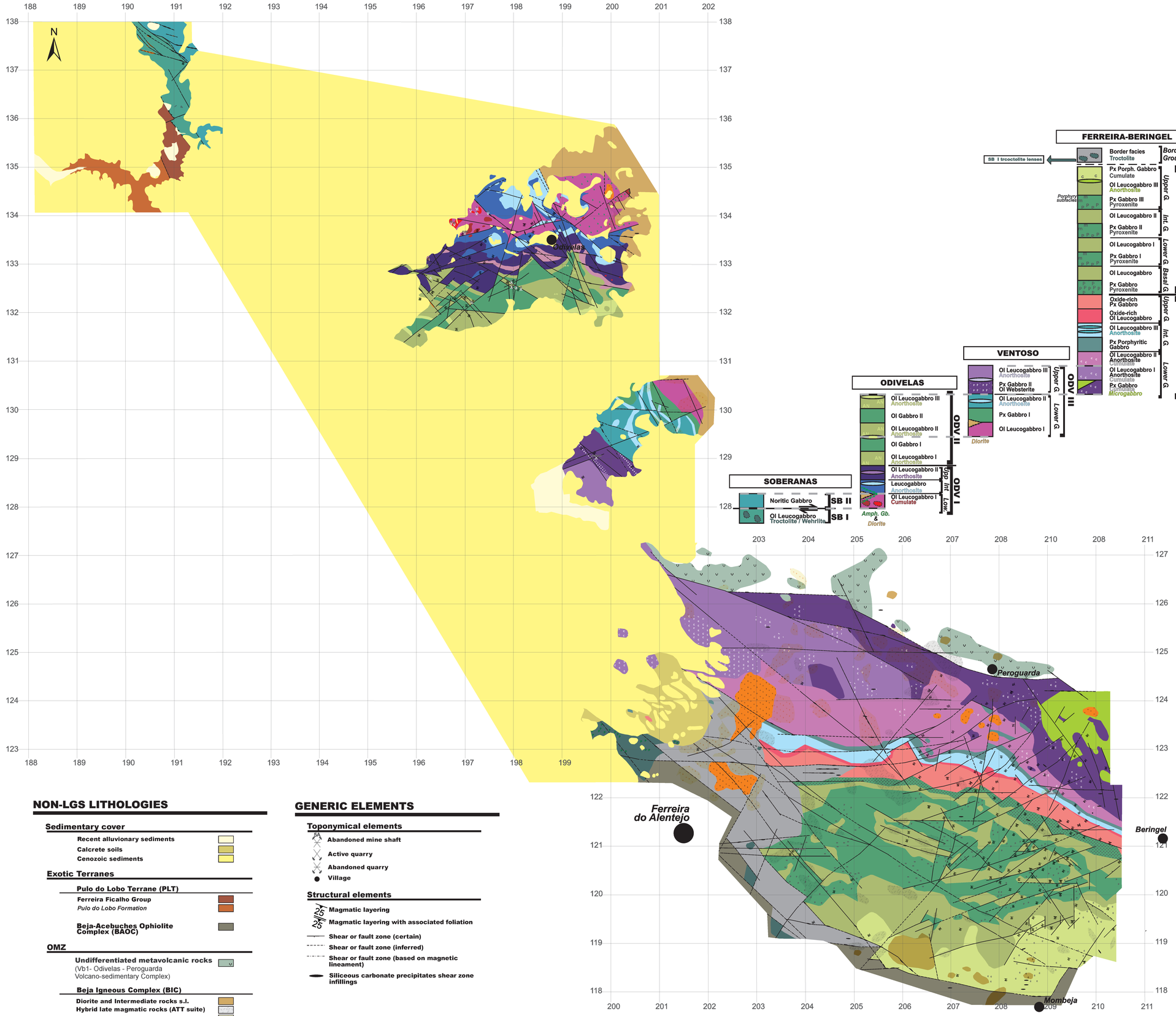


Figure A.3- Sample distribution along the stratigraphic sequence of the four mapped sectors. The code of colours associated with samples indicates their subsequent characterization, as depicted in the sampling map of figure A-2.

Figure A.4 (next page; A0)- Geological map of the LGS western compartment and correlation between the reconstructed stratigraphic columns obtained for each mapped sector (see main text in section **II.4- Vol. I** for details). Grid coordinates according with the international gauss-ellipsoid, Lisbon.

Figure A.5 (next page; A0)- Structural map for LGS showing: *(i)* simplified outlines of the mapped facies; *(ii)* all shear zones (and associated foliations) that affect the LGS facies cartographic pattern, as presented in the main geological map of **Appendix A- Figure A.4**; *(iii)* all the remainder shear-zones (and associated foliations) which are not commonly displayed for reasons of legibility; *(iv)* layering and magmatic foliation measurements locally representing the most characteristic orientations for each facies relative to the preferred orientation of their hosting Series / Group; *(v)* the contoured stereographic projections and frequency histograms for layering dip for each Series/Group (see section **II.4.5- Vol. I** for details).



NON-LGS LITHOLOGIES

Sedimentary cover

- Recent alluvionary sediments
- Calcrete soils
- Cenozoic sediments

Exotic Terranes

Pulo do Lobo Terrane (PLT)

- Ferreira Ficalho Group
- *Pulo do Lobo Formation*
- Beja-Acebuches Ophiolite Complex (BAOC)

OMZ

- Undifferentiated metavolcanic rocks (Vb1- Odivelas - Peroguarda Volcano-sedimentary Complex)

Beja Igneous Complex (BIC)

- Diorite and Intermediate rocks s.l.
- Hybrid late magmatic rocks (ATT suite)
- Felsic rocks- dike swarms
- Felsic rocks- small sills

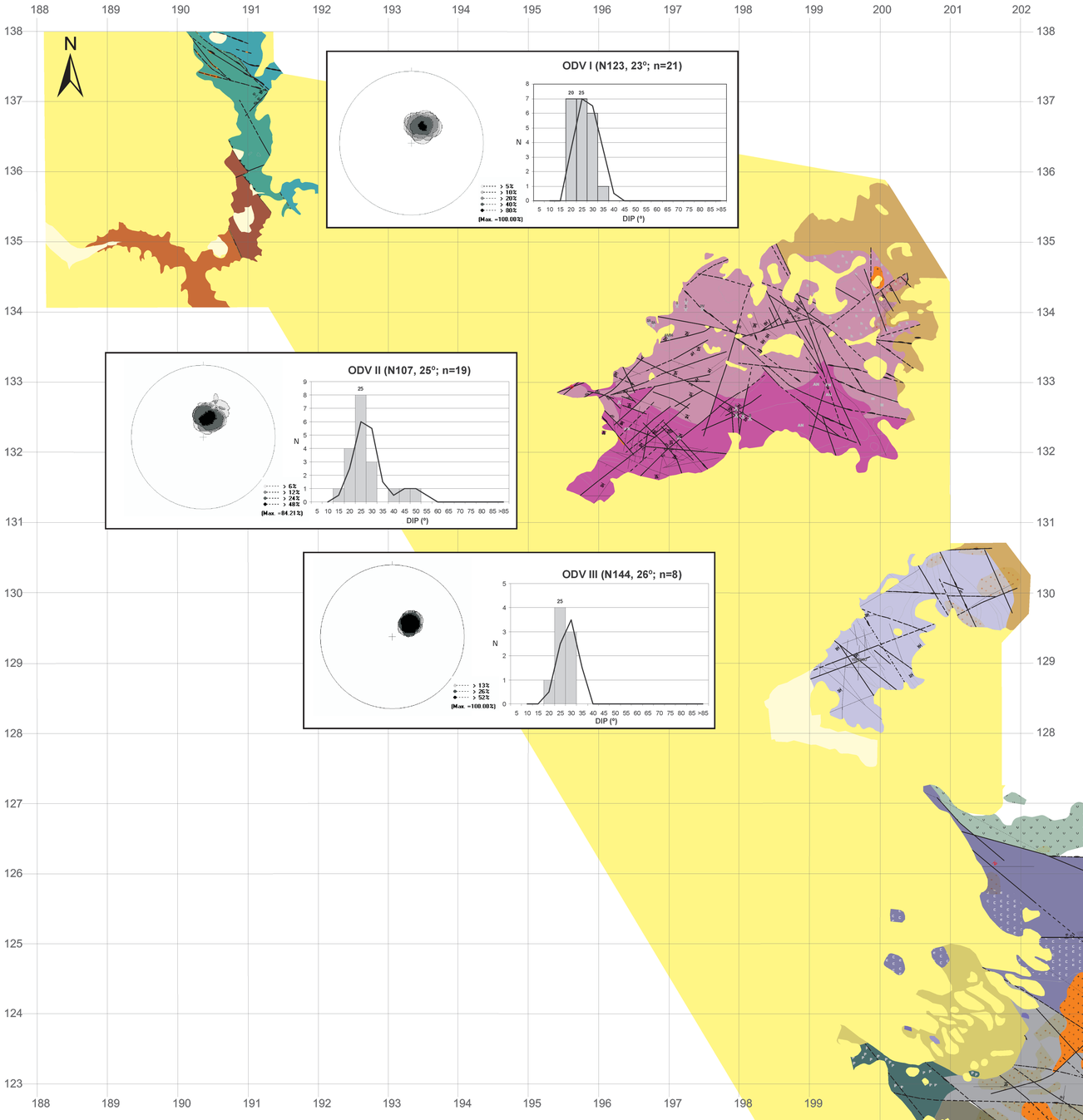
GENERIC ELEMENTS

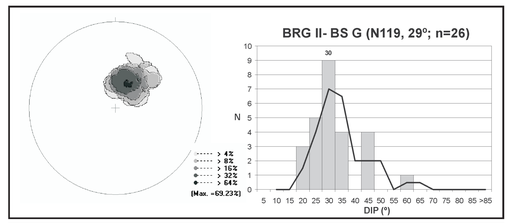
Toponymical elements

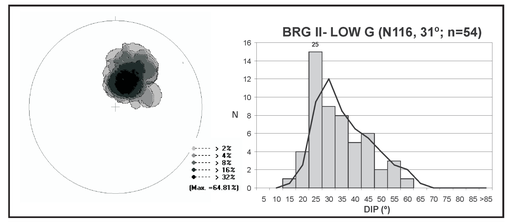
- Abandoned mine shaft
- Active quarry
- Abandoned quarry
- Village

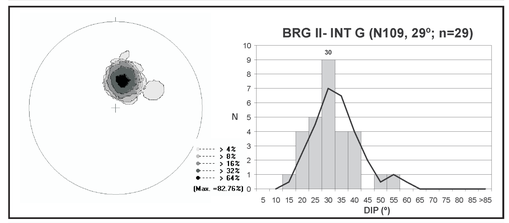
Structural elements

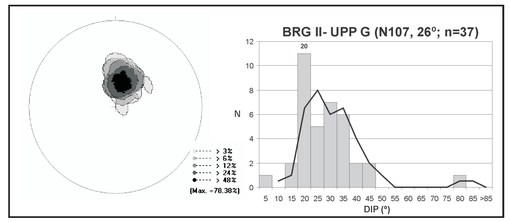
- Magmatic layering
- Magmatic layering with associated foliation
- Shear or fault zone (certain)
- Shear or fault zone (inferred)
- Shear or fault zone (based on magnetic lineament)
- Siliceous carbonate precipitates shear zone infillings

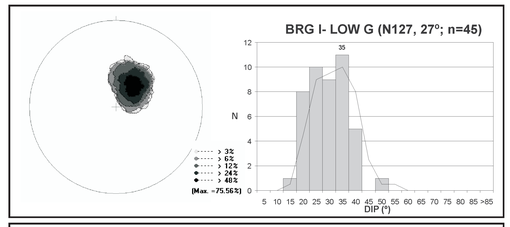


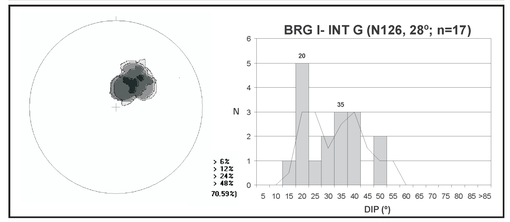


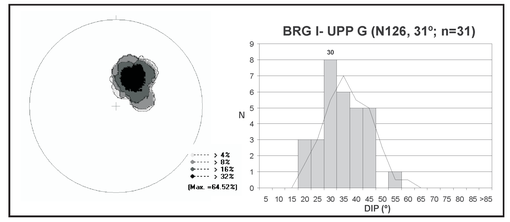












NON-LGS LITHOLOGIES

Sedimentary cover

- Recent alluvionary sediments
- Calcrete soils
- Cenozoic sediments

Exotic Terranes

Pulo do Lobo Terrane (PLT)

- Ferreira Ficalho Group
- *Pulo do Lobo Formation*
- Beja-Acebuches Ophiolite Complex (BAOC)

OMZ

- Undifferentiated metavolcanic rocks (Vb1- Odivelas - Peroguarda Volcano-sedimentary Complex)

Beja Igneous Complex (BIC)

- Diorite and Intermediate rocks s.l.
- Hybrid late magmatic rocks (ATT suite)
- Felsic rocks- dike swarms
- Felsic rocks- small sills

GENERIC ELEMENTS

Toponymical elements

- Abandoned mine shaft
- Active quarry
- Abandoned quarry
- Village

Structural elements

- Magmatic layering
- Magmatic layering with associated foliation
- Foliation associated to shear-zone
- Vertical foliation associated to shear-zone
- Shear or fault zone (certain)
- Shear or fault zone (inferred)
- Shear or fault zone (based on magnetic lineament)
- Siliceous-carbonate precipitates shear zone infillings

B. APPENDIX- PETROGRAPHY AND MODAL ANALYSIS

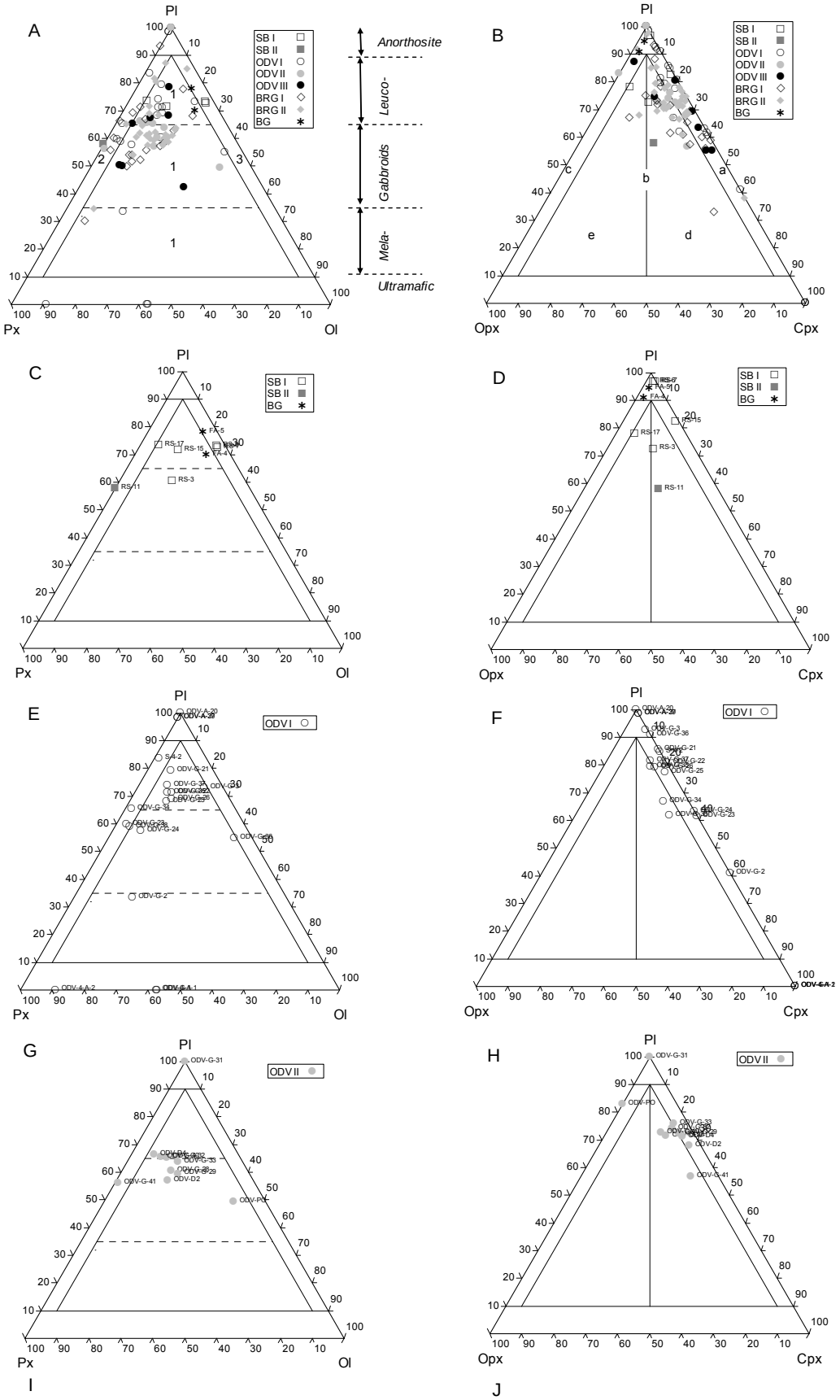
Table B.1- Results for modal analysis by petrographic estimate (E) and point counting (PC) for rocks studied by Jesus (2002).

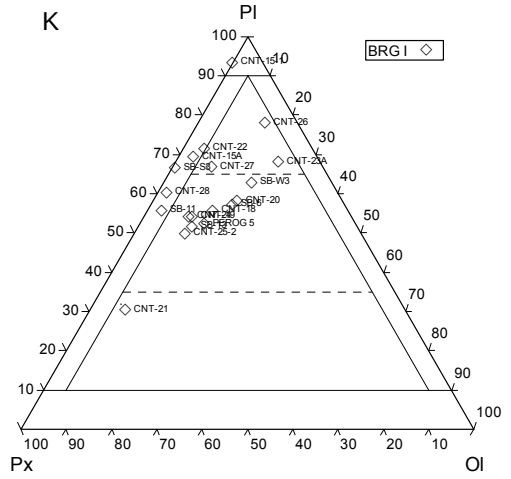
A			Sample	Source	IUGS Classification	Pl	Ol	Opx	Cpx	Hbl	Po	Spl	Ilm
BG		Troctolite	FA-4	E	Ol leucogabbronorite	70	22	5	2		0.1	0.5	0.0
			FA-5	E	Leucotroctolite	78	17	3	2		0.1	0.4	0.0
SB I		Troct and Wehrl	RS-6	E	Leucotroctolite	73	24	1	2		0.0	0.5	0.0
			RS-7	E	Leucotroctolite	72	25	0	2		0.0	0.1	0.0
			RS-8	E	Wehrlite	0	43	0	57		0.0	0.4	0.0
			RS-15	E	Ol leucogabbro	71	13	1	14		0.1	0.4	0.1
		Ol Leucogb	RS-17	E	Ol leucogabbronorite	72	6	15	6		0.1	0.8	0.1
			RS-3	E	Ol gabbronorite	59	17	11	12		0.2	0.8	0.3
SB II		Gabbronor	RS-11	E	Cpx norite	55	0	18	22		0.3	1.3	2.7
ODV I		Cum	ODV-4-A-1	PC	Wehrlite	0	41	0	54		0.0	3.2	2.2
			ODV-4-A-2	PC	Ol clinopyroxenite	0	10	0	80		0.0	6.2	4.0
			ODV-G-1	PC	Wehrlite	0	27	0	36		0.0	27.0	10.7
			ODV-G-2	PC	Ol melagabbro	25	14	0	37		0.0	14.5	9.7
			ODV-G-36	E	Ol gabbro	47	34	0	5		0.0	7.2	6.5
	LOW	Ol Leucog	ODV-G-3	PC	Ol leucogabbro	55	16	1	4	20	0.0	2.5	1.7
			S-4-2	PC	Leucogabbro	78	2	0	14	4	0.2	2.7	0.0
			ODV-G-34	E	Cpx leuconorite	58	2	7	22		8.0	2.1	0.5
			ODV-G-26	E	Ol leucogabbro	69	13	4	14		0.0	0.4	0.4
			ODV-G-25	E	Ol leucogabbro	67	12	2	18		0.0	0.9	1.0
			ODV-G-23	E	Gabbro	52	3	0	32	1	0.2	10.1	2.4
			ODV-G-21	E	Ol leucogabbro	72	7	0	12		0.0	9.0	0.2
			ODV-G-22	E	Ol leucogabbro	65	11	0	15		0.0	2.4	6.2
	INT	Leucog	ODV-G-24	E	Ol gabbro	56	9	0	32		0.0	1.6	1.3
			ODV-G-38	E	Cpx norite	54	5	7	26		0.0	6.4	1.7
			ODV-G-37	E	Ol leucogabbro	73	9	4	13		0.0	0.5	0.3
		Anort	ODV-A-20	E	Anorthosite	99	0	0	0		0.0	0.3	0.2
			ODV-A-27	E	Anorthosite	98	0	0	2		0.0	0.4	0.2
			ODV-A-39	E	Anorthosite	98	0	0	2		0.2	0.4	0.2
	UPP	Ol Leucog	ODV-G-35	E	Ol leucogabbronorite	64	10	5	12		0.0	6.7	3.0
ODV II		Ol Leucog I	ODV-PO	PC	Ol norite	43	36	9	0		10.5	1.5	0.0
			ODV-G-41	E	Cpx norite	47	1	7	29		0.5	11.2	3.6
		Ol Gb I	ODV-G-28	E	Ol gabbronorite	60	15	8	16		0.0	0.3	0.4
			ODV-G-32	E	Ol leucogabbronorite	65	12	5	18		0.0	0.1	0.1
			ODV-G-33	E	Olivine gabbro	63	16	4	16		0.0	0.5	0.4
		Anort	ODV-G-31	E	Anorthosite	99	0	0	0		0.0	0.3	0.5
		Ol Leucog II	ODV-G-29	E	Olivine gabbro	59	18	4	19		0.0	0.1	0.1
			ODV-G-40	E	Ol leucogabbronorite	65	10	9	15		0.0	0.4	0.4
		Ol Gb II	ODV-D2	E	Olivine gabbro	57	16	3	24		0.2	0.2	0.0
		Ol Leucog III	ODV-D4	E	Ol leucogabbro	66	7	4	23		0.0	0.2	0.2
ODV III	LOW	Ol Leucog I	CVD-19A	E	Ol leucogabbronorite	66	10	9	14		0.1	0.4	0.4
		Px Gb I	CDV-17	E	Ol leucogabbro	68	15	0	16		0.1	0.0	0.5
		Ol Leucog	CVD-16A	E	Ol gabbro	50	9	2	39		0.2	0.4	0.3
	UPP	Px Gb II	PEDODV2	E	Ol websterite	0	38	9	52		1.0	0.0	0.0
			CV-31	E	Ol gabbro	49	10	3	37		0.0	0.7	0.1
			CVD-6A1	E	Ol leucogabbro	65	5	1	28		0.1	0.1	0.2
		Ol Leucog II	*CVD-3*	E	Anorthosite	95	0	0	0	5	0.0	0.0	0.0
			CVD-2D	E	Ol gabbro	42	33	1	23		0.3	0.1	0.2
			CVD-20	E	Ol leuconorite	77	10	9	2		0.0	1.4	0.2

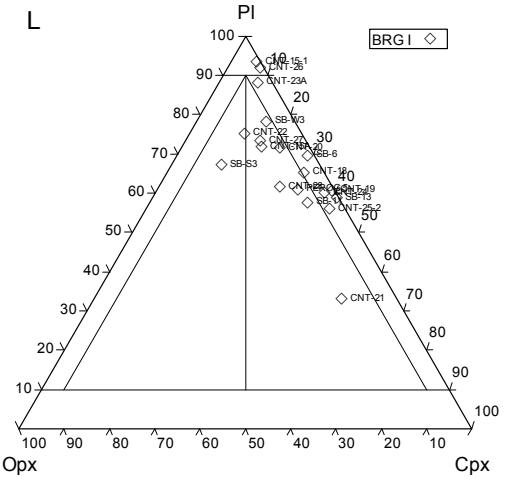
Table B.1- (continued)

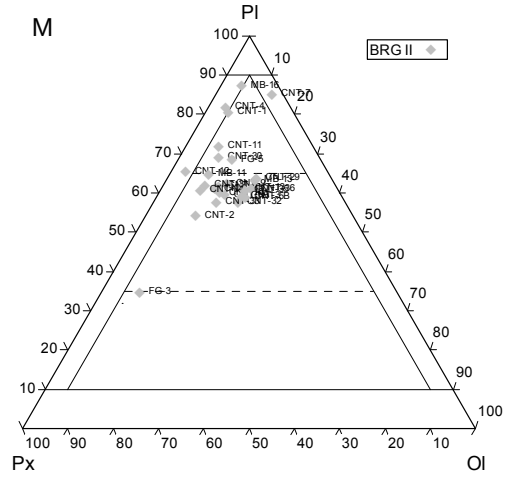
B			SAMPLE	Source	IUGS Classification	Pl	Ol	Opx	Cpx	Hbl	Po	Spl	Ilm
BRG I	LOW	Px Gb	PEROG 5	E	Ol gabbronorite with Hbl	51	14	7	26		0.2	0.5	0.9
			CNT-23A	E	Ol leucogabbro	67	23	3	7		0.1	0.3	0.1
			SB-N3	E	Clinopyroxenite	0	0	5	91	1	0.0	2.0	1.0
			CNT-25-2	E	Ol gabbro	49	11	3	36		0.1	0.3	0.1
			SB-N1	E	Clinopyroxenite	0	0	3	96	1	0.2	0.0	0.0
		Microgb	CNT-24	E	Ol gabbro	53	10	2	33		0.3	1.1	0.5
		Ol Leucog I	SB-33	E	Anorthosite	99	0	0	1	1	0.0	0.2	0.2
	INT	Ol Leucog II	CNT-26	E	Ol leucogabbro	77	15	1	6		0.0	0.7	0.0
			CNT-19	E	Ol gabbro	53	11	1	34		0.2	0.4	0.1
			SB-W3	E	Ol gabbronorite	62	20	5	12		0.7	0.3	0.2
			CNT-15A	E	Cpx leuconorite	69	3	10	17		0.1	0.1	0.0
			CNT-15-1	E	Anorthosite	91	0	1	6		2.1	0.1	0.1
		Px Porph Gb	CNT-20	E	Ol gabbronorite	58	19	6	18		0.1	0.4	0.1
			CNT-18	E	Ol gabbro	55	15	4	26		0.1	0.2	0.2
			SB-6	E	Ol gabbro	57	18	1	24		0.0	0.2	0.1
		Ol Leucog III	CNT-27	E	Ol leucogabbronorite	66	9	9	15		0.2	0.3	0.1
			SB-13	E	Ol gabbro	51	12	1	36		0.1	0.1	0.1
			SB-8	E	Anorthosite	96	0	0	2	1	0.2	0.3	0.2
			SB-17E	E	Ol norite	62	19	5	1	2	11.6	0.0	0.0
			SB-2A	E	Anorthosite	96	0	0	1	2	0.2	0.3	0.2
	UPP	Oxd rich Ol Leucog	CNT-22	E	Opx leuconorite	67	5	11	11		0.4	4.2	1.0
			CNT-28	E	Cpx norite	59	2	11	26		0.0	1.1	0.1
			SB-11	E	Cpx norite	48	3	6	29		0.7	10.9	1.8
	BS	Oxd rich Px Gb	CNT-21	E	Ol melagabbronorite	29	8	11	49		0.1	2.4	0.3
			SB-S3	E	Opx leuconorite	65	1	21	11		0.1	1.7	0.3
		Px Gb	CNT-8	E	Ol gabbronorite	61	13	7	19		0.2	0.2	0.2
			CNT-2	E	Ol gabbronorite	53	11	7	27		0.2	0.2	0.3
			CNT-29	E	Ol gabbronorite	63	20	6	11		0.2	0.8	0.3
		Ol Leucog	CNT-9	E	Ol gabbronorite	61	14	7	17		0.1	0.8	0.2
			CNT-1	E	Ol leucogabbronorite	80	6	5	9		0.0	0.5	0.2
			CNT-30	E	Ol leucogabbronorite	67	9	8	13		0.3	1.1	1.8
BRG II	LOW	Px Gb I	FG-6	E	Clinopyroxenite	0	1	2	76	1	20.0	0.5	0.5
			FG-8	E	Clinopyroxenite	0	1	2	96	1	0.0	0.5	0.5
			CNT-10	E	Ol gabbronorite	59	14	10	16		0.2	0.3	0.3
		Ol Leucog I	FG-5	E	Ol leucogabbro	61	11	0	17		0.6	6.2	3.4
			CNT-11	E	Ol leucogabbronorite	69	7	5	15		0.0	2.6	0.6
			CNT-7	E	Troctolite	84	13	0	2		0.1	0.1	0.2
	INT	Px Gb II	FG-3	E	Ol melagabbro	32	8	0	52		0.4	4.9	2.5
			CNT-12	E	Opx leuconorite	65	4	18	14		0.1	0.4	0.1
			CNT-14	E	Ol gabbro	60	12	2	25		0.1	0.2	0.3
			CNT-32	E	Ol gabbro	56	19	2	21		0.2	0.9	0.4
			CNT-6A	E	Ol gabbronorite	59	15	8	18		0.1	0.0	0.1
		Ol Leucog II	MB-16	E	Opx leuconorite	87	5	7	2		0.0	0.1	0.2
			CNT-13	E	Ol gabbro	61	18	0	21		0.3	0.2	0.3
			CNT-31	E	Ol gabbro	61	10	2	26		0.2	0.1	0.2
	UPP	Px Gb III	CNT-33	E	Ol gabbronorite	57	14	7	21		0.1	0.4	0.1
			CNT-36	E	Ol gabbro	60	20	0	19		0.2	0.3	0.2
		Ol Leucog III	CNT-34	E	Ol gabbronorite	60	9	6	25		0.1	0.1	0.0
			CNT-35	E	Ol gabbro	60	19	1	19		0.2	0.5	0.2
			CNT-4	E	Leucogabbro	81	4	4	10		0.1	0.3	0.3
		Px Porph. Gb	MB-11	E	Ol gabbronorite	64	9	6	20		0.2	0.2	0.1
			MB-13	E	Ol gabbro	62	19	3	14		0.2	1.5	0.5
			CNT-5B	E	Ol gabbro	58	20	2	19		0.1	0.6	0.2
			CNT-3	E	Ol gabbro	58	19	1	21		0.2	0.6	0.4

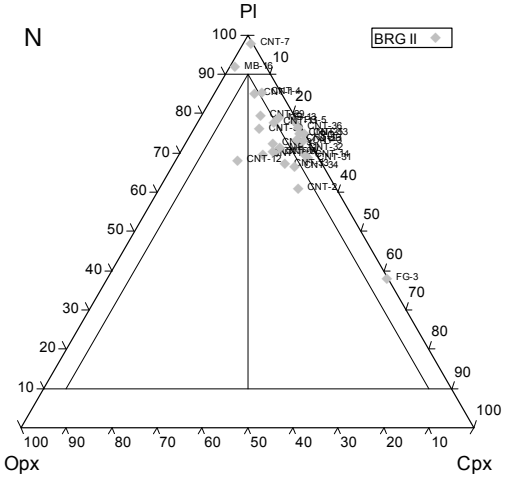
Figure B.1- Plots according with IUGS classification for LGS gabbroic rocks using data in **Table B.1.** Fields exemplified in plots **(A)** and **(B)**: ***(1)-*** Ol Gabbro ***(1a)***; gabbronorite ***(1b)***; norite ***(1c)***- ***(2)*** Gabbro ***(2a)***; Cpx norite ***(2b)***; Opx norite ***(2e)***; Norite ***(2c)***. ***(3)***- Troctolite.




K
Pl
BRG I
Px
Ol


L
Pl
BRG I
Opx
Cpx


M
Pl
BRG II
Px
Ol


N
Pl
BRG II
Opx
Cpx

C. APPENDIX- MINERAL CHEMISTRY ANALYSIS

Table C.1- EPMA results for olivine

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct
CLASIF	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Wehrl	Wehrl	Wehrl	Wehrl	Ol Gb	Ol Gb	Ol Gb	Troct	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol ©	Ol (C)	Ol (B)	Ol (C)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol intc (C)	Ol intc (C)	Ol (C)	Ol (B)
SAMPLE	RS-6	RS-6	RS-6	RS-6	RS-6	RS-6	RS-7	RS-7	RS-7	RS-7	RS-8	RS-8	RS-8	RS-8	RS-9	RS-9	RS-9	RS-10	RS-10	RS-10	RS-10	RS-15	RS-15	RS-15	RS-15
Label	237 (2_4)	238 (2_5)	242 (5_1)	243 (5_2)	244 (6_1)	245 (6_2)	1166 [1-1]	1167 [1-2]	1173 [2-1]	1174 [2-2]	285 (3_1)	286 (3_2)	289 (4_3)	291 (6_1)	269 (7_7)	270 (7_8)	277 (9_1)	179 (4_1)	180 (4_2)	188 (6_1)	189 (6_2)	1092 [5-1]	1093 [5-2]	1097 [2-2]	1098 [2-3]
SiO2	39.98	39.95	39.75	41.33	40.07	39.96	40.10	40.11	40.49	39.64	39.99	40.09	39.55	39.79	39.44	39.34	39.86	39.61	39.45	39.53	39.22	39.04	39.50	38.94	39.19
TiO2	0.02	0.00	0.00	0.02	0.00	0.00	0.03	0.16	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00
Al2O3	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.04	0.00	0.01
V2O3																									
Cr2O3	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.07	0.04	0.00	0.00	0.00	0.00	0.01	0.04	0.06	0.01	0.00	0.01	0.00	0.02	0.01	0.03	0.01	0.00
MgO	46.57	46.64	46.61	47.68	47.38	46.85	46.86	46.24	47.37	46.74	44.37	44.21	44.22	44.27	45.94	45.85	45.32	42.42	41.96	43.14	42.65	43.10	43.76	43.31	43.38
CaO	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.24	0.01	0.01	0.00	0.00	0.02	0.00	0.02	0.00	0.01	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00
MnO	0.15	0.21	0.15	0.13	0.16	0.20	0.16	0.18	0.21	0.22	0.21	0.20	0.21	0.23	0.22	0.24	0.20	0.30	0.27	0.30	0.25	0.23	0.23	0.18	0.22
FeO	12.18	12.10	12.69	11.23	12.13	12.41	13.15	12.81	13.04	12.86	14.47	14.66	14.47	14.11	15.40	14.87	15.16	17.53	17.87	16.98	17.04	16.88	16.62	16.34	16.41
NiO	0.11	0.12	0.11	0.14	0.11	0.09	0.22	0.19	0.17	0.22	0.18	0.18	0.16	0.28	0.07	0.08	0.08	0.04	0.07	0.00	0.07	0.09	0.13	0.06	0.06
ZnO																									
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.04	0.03	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Total	99.03	99.06	99.33	100.54	99.84	99.54	100.53	100.00	101.37	99.68	99.23	99.35	98.64	98.69	101.12	100.49	100.70	99.95	99.64	100.03	99.33	99.37	100.31	98.87	99.29
Atoms per Unit formula																									
Si	1.00	1.00	0.99	1.01	0.99	1.00	0.99	1.00	0.99	0.99	1.01	1.01	1.00	1.01	0.98	0.98	0.99	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.74	1.74	1.74	1.74	1.75	1.74	1.73	1.72	1.73	1.74	1.67	1.66	1.67	1.67	1.71	1.71	1.69	1.61	1.60	1.63	1.62	1.64	1.65	1.65	1.65
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Fe	0.25	0.25	0.27	0.23	0.25	0.26	0.27	0.27	0.27	0.27	0.31	0.31	0.31	0.30	0.32	0.31	0.32	0.37	0.38	0.36	0.36	0.36	0.35	0.35	0.35
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	3.00	3.00	3.01	2.99	3.01	3.00	3.01	3.00	3.01	3.01	2.99	2.99	3.00	2.99	3.02	3.01	3.01	2.99	2.99	3.00	3.00	3.00	3.00	3.00	3.00
Fo (%)	87	87	87	88	87	87	86	87	87	87	85	84	84	85	84	85	84	81	81	82	82	82	82	83	82
Fa (%)	12.79	12.71	13.25	11.67	12.56	12.94	13.60	13.45	13.38	13.37	15.47	15.68	15.51	15.17	15.83	15.39	15.80	18.82	19.28	18.09	18.31	18.01	17.56	17.47	17.51
Ni (ppm)	841	937	893	1102	831	714	1753	1492	1337	1719	1423	1384	1292	2218	548	630	659	310	581	1	559	714	1000	468	510
Mn (ppm)	1177	1645	1192	1004	1233	1532	1200	1390	1617	1683	1632	1556	1645	1759	1669	1871	1580	2307	2092	2347	1968	1759	1782	1400	1734

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol Megacx (C)	Ol Megacx (B)	Ol (B)	Ol cum (C)	Ol cum (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol Intc (C)	Ol Intc (B)	Ol cum (C)	Ol cum (C)	Ol cum (B)	Ol intc (C)	Ol intc (B)	Ol intc (C)	Ol intc (B)	Ol ©	Ol ©	Ol (B)	Ol ©	Ol (B)	
SAMPLE	RS-16	RS-16	RS-16	RS-17	RS-17	RS-17	RS-17	RS-17	RS-17	RS-18	RS-18	RS-18	RS-18	RS-18	RS-21	RS-21	RS-21	RS-21	RS-2	RS-2	RS-2	RS-2	RS-2	
Label	1075 [3-3]	1076 [3-4]	1083 [6-2]	1106 [1-5]	1107 [1-6]	1114 [5-1]	1115 [5-2]	1122 [6-1]	1123 [6-2]	1145A [3-1]	1146A [3-2]	1148A [3-4]	1153A [4-1]	1154A [4-2]	1128 [3-1]	1129 [3-2]	1137 [4-1]	1138 [4-2]	225 (2_3)	230 (3_1)	231 (3_2)	234 (5_1)	235 (5_2)	
SiO2	37.99	38.64	38.92	37.88	37.55	38.65	38.38	39.02	38.86	38.81	39.31	38.73	38.63	38.74	39.06	39.26	38.79	39.29	38.42	38.77	38.95	38.09	38.30	
TiO2	0.02	0.00	0.02	0.04	0.00	0.02	0.02	0.00	0.00	0.01	0.02	0.02	0.00	0.00	0.01	0.03	0.01	0.02	0.01	0.00	0.01	0.00	0.00	
Al2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	
V2O3																								
Cr2O3	0.01	0.00	0.03	0.00	0.06	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	
MgO	37.77	38.37	38.47	37.18	36.65	38.48	38.20	37.33	37.43	39.61	40.33	39.99	39.37	39.67	41.84	41.69	41.87	41.78	39.13	39.56	39.86	39.29	39.31	
CaO	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.00	
MnO	0.32	0.40	0.40	0.45	0.40	0.42	0.36	0.40	0.40	0.32	0.29	0.37	0.31	0.31	0.24	0.30	0.30	0.26	0.33	0.36	0.41	0.35	0.40	
FeO	22.78	23.02	22.96	24.36	24.42	22.14	21.57	24.16	23.36	20.62	20.28	20.53	20.87	20.94	18.60	18.44	18.45	18.15	20.34	19.41	19.71	21.33	21.05	
NiO	0.09	0.10	0.03	0.03	0.05	0.11	0.07	0.00	0.05	0.03	0.00	0.00	0.05	0.00	0.11	0.08	0.01	0.03	0.10	0.06	0.09	0.07	0.01	
ZnO																								
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	98.97	100.53	100.83	99.96	99.14	99.82	98.62	100.92	100.14	99.43	100.25	99.66	99.27	99.66	99.87	99.80	99.44	99.52	98.34	98.16	99.08	99.16	99.07	
Atoms per Unit formula																								
Si	1.00	1.00	1.01	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.00	1.00	
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mg	1.48	1.48	1.48	1.46	1.45	1.49	1.50	1.44	1.45	1.53	1.54	1.54	1.53	1.53	1.60	1.59	1.60	1.59	1.53	1.54	1.54	1.53	1.53	
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Fe	0.50	0.50	0.50	0.54	0.54	0.48	0.47	0.52	0.51	0.45	0.43	0.44	0.45	0.45	0.40	0.39	0.40	0.39	0.45	0.42	0.43	0.47	0.46	
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
SUM Catio	3.00	3.00	2.99	3.00	3.00	2.99	2.99	2.99	2.99	2.99	2.99	3.00	2.99	3.00	3.00	3.00	3.00	2.99	2.99	2.99	2.99	3.00	3.00	
Fo (%)	75	75	75	73	73	76	76	73	74	77	78	78	77	77	80	80	80	80	77	78	78	77	77	
Fa (%)	25.28	25.18	25.08	26.88	27.21	24.40	24.06	26.64	25.93	22.60	22.00	22.36	22.93	22.85	19.96	19.88	19.82	19.60	22.58	21.58	21.71	23.35	23.10	
Ni (ppm)	678	795	271	200	383	827	525	1	398	231	1	1	382	1	874	620	48	200	773	456	670	546	42	
Mn (ppm)	2447	3060	3104	3502	3120	3279	2779	3111	3135	2513	2253	2867	2369	2424	1879	2305	2302	2007	2527	2759	3175	2678	3096	

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	-	-	-	-	-	-	-	-	-	-	-	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Werhl	Werhl	Werhl
DESCRIP	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (B)	Ol (B)	Ol (C)	Ol (B)	Ol indig ©	Ol (C)	Ol ©	Ol (B)
SAMPLE	RS-1A	RS-1A	RS-1B	RS-1B	RS-1B	RS-1B	RS-1B	RS-1B	RS-3	RS-3	RS-3	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-G-1	ODV-G-1	ODV-G-1
Label	217 (1_1)	218 (1_2)	196 (1_1)	197 (1_2)	203 (2_1)	204 (2_2)	211 (3_1)	212 (3_2)	255 (3_1)	256 (3_2)	258 (4_2)	M282 (3_4)	M281 (3_3)	M284 (4_1)	M283 (4_2)	M285 (5_1)	M286 (5_2)	M 288 (6_2)	M287 (6_1)	M289 (6_3)	M 298 (1_1)	M301 (2_2)	M300 (2_1)
SiO2	38.16	38.52	38.80	38.38	38.60	38.83	38.85	38.69	38.79	38.79	38.64	36.09	35.29	35.47	34.99	35.40	35.57	35.82	35.91	35.73	36.40	36.30	36.77
TiO2	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.05	0.01	0.00	0.02	0.01	0.04	0.02	0.05
Al2O3	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.36	0.00	0.00	0.00	0.02	0.27	0.04	0.00	0.02	0.01	0.00	0.00
V2O3												0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr2O3	0.00	0.00	0.00	0.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MgO	38.67	37.76	38.88	38.69	38.28	38.40	39.24	38.95	37.06	37.39	37.23	28.71	26.97	27.27	28.27	27.86	27.66	27.45	27.38	26.91	29.49	29.75	31.46
CaO	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.04	0.03	0.03	0.02	0.02	0.03	0.01	0.02	0.02	0.05	0.03	0.04
MnO	0.28	0.37	0.32	0.33	0.38	0.33	0.35	0.38	0.42	0.34	0.33	0.63	0.60	0.62	0.63	0.69	0.67	0.64	0.66	0.61	0.76	0.76	0.62
FeO	22.62	22.41	21.75	22.13	23.02	22.30	22.37	21.72	24.83	24.48	24.08	35.45	35.68	36.03	36.41	35.86	35.47	36.20	35.77	36.01	33.06	34.00	31.76
NiO	0.13	0.12	0.09	0.09	0.10	0.08	0.10	0.12	0.09	0.12	0.12	0.00	0.01	0.03	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00
ZnO												0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**99.85**	**99.19**	**99.85**	**99.74**	**100.38**	**99.95**	**100.97**	**99.94**	**101.19**	**101.14**	**100.41**	**101.28**	**98.59**	**99.45**	**100.35**	**99.90**	**99.69**	**100.18**	**99.76**	**99.34**	**99.81**	**100.85**	**100.69**
Atoms per Unit formula																							
Si	1.00	1.01	1.01	1.00	1.00	1.01	1.00	1.00	1.01	1.01	1.01	0.99	1.00	1.00	0.98	0.99	0.99	1.00	1.00	1.00	1.00	0.99	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.50	1.48	1.50	1.50	1.48	1.49	1.51	1.51	1.43	1.45	1.45	1.17	1.14	1.14	1.18	1.16	1.15	1.14	1.14	1.13	1.21	1.21	1.27
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01
Fe	0.49	0.49	0.47	0.48	0.50	0.48	0.48	0.47	0.54	0.53	0.53	0.81	0.85	0.85	0.85	0.84	0.83	0.84	0.84	0.85	0.76	0.78	0.72
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	**3.00**	**2.99**	**2.99**	**3.00**	**3.00**	**2.99**	**3.00**	**3.00**	**2.99**	**2.99**	**2.99**	**3.00**	**3.00**	**3.00**	**3.02**	**3.01**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.01**	**3.00**
Fo (%)	**75**	**75**	**76**	**76**	**75**	**75**	**76**	**76**	**73**	**73**	**73**	**59**	**57**	**57**	**58**	**58**	**58**	**57**	**58**	**57**	**61**	**61**	**64**
Fa (%)	24.71	24.97	23.89	24.29	25.23	24.58	24.23	23.83	27.31	26.86	26.63	40.92	42.60	42.57	41.94	41.93	41.84	42.52	42.30	42.88	38.61	39.07	36.16
Ni (ppm)	1020	958	717	717	772	621	767	905	684	934	919	0	52	228	0	0	15	88	0	265	0	0	0
Mn (ppm)	2153	2854	2480	2518	2923	2560	2675	2934	3223	2630	2552	4865	4664	4809	4884	5341	5214	4986	5138	4709	5858	5885	4779

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Werhl	Werhl	Werhl	Werhl	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol ©	Ol ©	Ol ©	Ol (B)	Ol ©	Ol ©	Ol (B)	Ol (B)	Ol ©	Ol ©	Ol II ©	Ol II (B)	Ol I ©	Ol I (B)	Ol II ©	Ol II (B)	Ol_Simp _Mgt (B)	Ol_Simp _Mgt (C)	Ol_Simp _Mgt (B)	Ol ©	Ol ©	Ol (B)	Ol (C)
SAMPLE	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	S-4-2	S-4-2	S-4-2	ODV-G-26	ODV-G-26	ODV-G-26	ODV-G-26
Label	M302 (3_1)	M303 (3_2)	M305 (5_2)	M304 (5_1)	M306 (5_3)	M307 (5_4)	M308 (6_1)	M309 (6_2)	M311 (7_2)	M312 (7_3)	309 (2_1)	310 (2_2)	311(3_1)	312 (3_2)	317 (4_3)	318 (4_4)	M295 (2_1)	M296 (2_2)	M297 (2_3)	M677 (1_1)	M678 (1_2)	M680 (1_4)	M562 (1_4)
SiO2	36.50	36.36	36.59	36.91	36.15	35.92	36.26	36.04	36.69	35.93	35.83	35.74	35.94	35.74	35.73	35.95	36.12	35.83	36.14	36.92	36.59	36.70	36.82
TiO2	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.03	0.03	0.00	0.01	0.00	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00
Al2O3	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.00	0.01	0.02	0.00	0.00	0.01	0.00
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MgO	30.59	29.33	29.85	30.51	28.24	29.38	27.15	27.89	30.03	27.49	26.17	25.79	25.72	25.89	25.86	26.32	28.11	28.29	28.50	32.24	32.38	32.31	32.96
CaO	0.04	0.06	0.04	0.03	0.03	0.02	0.03	0.03	0.02	0.01	0.01	0.03	0.00	0.01	0.02	0.03	0.00	0.03	0.00	0.00	0.00	0.01	0.01
MnO	0.66	0.76	0.69	0.77	0.75	0.65	0.69	0.66	0.65	0.68	0.64	0.67	0.71	0.70	0.62	0.68	0.71	0.73	0.70	0.44	0.38	0.49	0.38
FeO	31.37	33.40	33.47	33.02	36.63	34.49	36.40	36.37	32.33	36.04	38.34	37.24	38.13	37.53	37.40	36.51	35.30	34.90	34.12	30.18	30.40	29.48	30.33
NiO	0.00	0.01	0.01	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.02	0.07	0.02	0.00	0.00
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Total	**99.17**	**99.91**	**100.71**	**101.28**	**101.82**	**100.49**	**100.53**	**101.02**	**99.79**	**100.16**	**101.00**	**99.49**	**100.53**	**99.91**	**99.67**	**99.54**	**100.24**	**99.80**	**99.51**	**99.85**	**99.79**	**99.01**	**100.51**
Atoms per Unit formula																							
Si	1.00	1.00	1.00	1.00	0.99	0.99	1.01	1.00	1.01	1.00	1.00	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.00	0.99	1.00	0.99
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.25	1.21	1.22	1.23	1.16	1.21	1.12	1.15	1.23	1.14	1.09	1.09	1.07	1.09	1.09	1.10	1.16	1.17	1.18	1.30	1.31	1.31	1.32
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Fe	0.72	0.77	0.76	0.75	0.84	0.80	0.85	0.84	0.74	0.84	0.90	0.88	0.89	0.88	0.88	0.86	0.82	0.81	0.79	0.68	0.69	0.67	0.68
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	**3.00**	**3.00**	**3.00**	**3.00**	**3.01**	**3.01**	**2.99**	**3.00**	**2.99**	**3.00**	**3.00**	**2.99**	**2.99**	**2.99**	**2.99**	**2.99**	**3.00**	**3.00**	**3.00**	**3.00**	**3.01**	**3.00**	**3.01**
Fo (%)	**63**	**61**	**61**	**62**	**58**	**60**	**57**	**58**	**62**	**58**	**55**	**55**	**55**	**55**	**55**	**56**	**59**	**59**	**60**	**66**	**66**	**66**	**66**
Fa (%)	36.52	38.97	38.61	37.78	42.12	39.70	42.92	42.25	37.65	42.38	45.11	44.75	45.40	44.85	44.79	43.76	41.33	40.90	40.18	34.44	34.50	33.85	34.05
Ni (ppm)	0	52	74	0	0	199	0	0	59	0	1	1	120	57	1	113	0	29	171	530	128	0	0
Mn (ppm)	5144	5853	5351	5972	5828	5004	5336	5119	5028	5281	4930	5206	5504	5389	4818	5261	5499	5655	5422	3368	2926	3811	2920

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol (B)	Ol ©	Ol (B)	Ol I ©	Ol I (B)	Ol ©	Ol (B)	Ol I ©	Ol I ©	Ol I (B)	Ol II ©	Ol II (B)	Ol ©	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©
SAMPLE	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35
Label	M561(1_3)	M665 (1_3)	M666 (1_4)	M667 (2_1)	M668 (2_2)	M669 (2_3)	M670 (3_1)	M671 (3_4)	371(2_1)	372 (2_2)	375 (4_1)	376 (4_2)	355 (1_3)	359 (2_3)	360 (2_4)	363 (3_3)	364 (3_4)	337 (4_5)	340 (2_3)	341 (2_4)	346 (3_7)	347 (3_8)	351(5_5)
SiO2	36.90	38.02	37.81	38.06	36.99	37.93	37.83	37.72	37.23	36.95	37.16	36.90	36.99	36.90	37.19	37.36	37.12	35.73	35.86	35.43	35.40	35.73	35.81
TiO2	0.01	0.03	0.02	0.00	0.02	0.01	0.02	0.03	0.00	0.00	0.00	0.00	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.01
Al2O3	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.01
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00															
Cr2O3	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.01	0.00
MgO	32.98	33.56	33.10	34.54	33.97	34.36	34.62	34.31	31.44	31.39	31.77	32.16	31.22	31.33	32.12	31.99	32.16	26.96	26.61	26.69	25.49	25.68	26.21
CaO	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.02	0.03	0.00	0.02	0.00	0.00	0.00	0.02	0.01	0.00	0.01	0.01	0.01	0.02	0.00
MnO	0.40	0.46	0.45	0.42	0.44	0.42	0.48	0.42	0.35	0.42	0.43	0.41	0.50	0.53	0.47	0.44	0.41	0.64	0.65	0.56	0.65	0.54	0.63
FeO	30.04	29.04	29.84	28.04	28.02	28.14	27.67	27.82	30.94	30.51	29.23	29.45	31.74	31.45	30.82	29.59	29.55	36.40	36.91	36.44	38.42	37.94	38.05
NiO	0.00	0.00	0.00	0.03	0.00	0.00	0.02	0.03	0.00	0.04	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00															
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.36	101.13	101.23	101.10	99.44	100.89	100.66	100.34	99.99	99.34	98.62	98.97	100.47	100.25	100.61	99.41	99.27	99.77	100.06	99.16	100.00	99.95	100.72
Atoms per Unit formula																							
Si	0.99	1.01	1.01	1.01	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.00	1.00	1.00	1.00	1.01	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.32	1.33	1.31	1.36	1.36	1.36	1.37	1.36	1.27	1.28	1.29	1.31	1.26	1.27	1.29	1.29	1.30	1.13	1.11	1.12	1.07	1.08	1.09
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.01
Fe	0.68	0.64	0.66	0.62	0.63	0.62	0.61	0.62	0.70	0.70	0.67	0.67	0.72	0.71	0.69	0.67	0.67	0.85	0.86	0.86	0.91	0.89	0.89
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	3.01	2.99	2.99	2.99	3.00	2.99	3.00	3.00	2.99	2.99	2.99	2.99	3.00	3.00	3.00	2.99	2.99	3.00	3.00	3.00	3.00	2.99	3.00
Fo (%)	66	67	66	69	68	69	69	69	64	65	66	66	64	64	65	66	66	57	56	57	54	55	55
Fa (%)	33.81	32.68	33.58	31.29	31.63	31.47	30.96	31.27	35.57	35.29	34.04	33.94	36.32	36.03	34.99	34.16	34.01	43.09	43.76	43.37	45.82	45.32	44.89
Ni (ppm)	0	0	38	264	0	0	166	258	35	324	1	55	42	1	1	1	1	81	1	172	1	1	1
Mn (ppm)	3113	3560	3488	3222	3440	3239	3687	3234	2715	3264	3298	3194	3890	4125	3620	3388	3182	4970	5065	4354	5063	4191	4846

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I Upp	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP																						
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Gb I	Ol Gb I	Ol Gb	Ol Gb	Ol Gb	Ol Gb
CLASIF	Ol Leucog	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Opx Leucog	Opx Leucog	Opx Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol ©	Ol ©	Ol ©	Ol (B)	Ol (B)	Ol (C)	Ol (B)	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol bleb ©	Ol bleb ©
SAMPLE	ODV-G-35	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-28
Label	352 (5_6)	M313 (1_1)	M314 (1_2)	M315 (2_1)	M316 (2_2)	M317 (3_2)	M319 (3_2)	M318(3_1)	M320 (3_3)	M322 (4_2)	M321 (4_1)	M323 (4_3)	M324 (6_1)	M325 (6_2)	411(1_6)	412 (1_7)	417 (4_1)	419 (2_2)	420 (2_3)	M672 (1_1)	M673 (1_2)	M674 (1_3)	M675 (2_1)
SiO2	35.66	38.28	38.65	38.07	38.31	38.59	37.45	37.94	38.00	38.28	37.39	36.93	38.18	38.54	37.27	37.21	36.79	37.86	37.77	37.71	37.96	37.76	37.51
TiO2	0.02	0.01	0.03	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.06	0.00	0.03	0.01	0.00
Al2O3	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
V2O3		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00	0.00	0.00	0.00
Cr2O3	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MgO	26.28	39.33	38.31	38.33	38.06	37.27	37.90	37.97	37.81	37.98	36.17	36.58	38.42	39.46	33.74	34.38	33.25	36.11	35.94	35.83	36.12	35.61	35.19
CaO	0.03	0.00	0.01	0.00	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.01	0.00	0.01	0.02	0.04	0.03	0.00	0.00	0.02	0.02	0.00	0.00
MnO	0.62	0.44	0.43	0.50	0.44	0.45	0.47	0.42	0.38	0.47	0.44	0.46	0.49	0.49	0.34	0.33	0.39	0.40	0.37	0.42	0.35	0.36	0.38
FeO	37.62	21.43	21.67	22.98	23.98	23.14	23.29	21.78	22.94	22.83	23.74	23.80	21.64	21.00	27.27	26.73	27.51	24.81	24.95	25.25	25.09	25.84	25.72
NiO	0.00	0.04	0.07	0.10	0.04	0.03	0.02	0.01	0.11	0.08	0.08	0.05	0.06	0.02	0.01	0.00	0.04	0.03	0.05	0.10	0.13	0.08	0.06
ZnO		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						0.00	0.00	0.00	0.00
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.29	99.54	99.16	99.97	100.84	99.49	99.16	98.12	99.29	99.68	97.86	97.84	98.79	99.53	98.66	98.69	98.00	99.21	99.15	99.33	99.70	99.69	98.85
Atoms per Unit formula																							
Si	1.00	1.00	1.01	1.00	1.00	1.01	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.10	1.53	1.49	1.49	1.48	1.46	1.49	1.50	1.48	1.48	1.45	1.47	1.51	1.53	1.36	1.38	1.35	1.43	1.42	1.42	1.42	1.41	1.40
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.88	0.47	0.47	0.50	0.52	0.51	0.51	0.48	0.50	0.50	0.53	0.54	0.48	0.46	0.62	0.60	0.63	0.55	0.55	0.56	0.56	0.57	0.58
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	3.00	3.00	2.99	3.00	3.00	2.99	3.01	3.00	3.00	3.00	3.00	3.01	3.00	3.00	2.99	3.00	3.00	2.99	2.99	3.00	3.00	3.00	3.00
Fo (%)	55	77	76	75	74	74	74	76	75	75	73	73	76	77	69	70	68	72	72	72	72	71	71
Fa (%)	44.54	23.41	24.09	25.17	26.11	25.84	25.64	24.34	25.39	25.22	26.91	26.74	24.01	22.99	31.20	30.37	31.70	27.82	28.03	28.33	28.04	28.93	29.08
Ni (ppm)	1	306	552	754	283	201	179	53	827	604	662	379	471	157	97	1	302	270	380	760	1000	643	456
Mn (ppm)	4828	3439	3307	3903	3372	3462	3671	3286	2973	3639	3419	3592	3824	3828	2618	2551	2989	3089	2901	3235	2701	2765	2939

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP																							
UNIT	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II
CLASIF	Ol Gb	Ol_Opx Gb	Ol_Opx Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Ol bleb ©	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol micros ©	Ol micros ©	Ol micros ©	Ol micros ©	Ol micros ©	Ol ©	Ol (B)	Ol micros ©	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol cum inc Pl (C)	Ol cum inc Pl (B)	Ol cum inc Pl (C)	Ol cum (C)	Ol cum (B)	Ol intc (C)
SAMPLE	ODV-G-28	ODV-G-32	ODV-G-32	ODV-G-33	ODV-G-33	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D2	ODV-D2	ODV-D2	ODV-D2
Label	M676 (2_2)	M660 (1_1)	M662 (1_6)	M663 (1_1)	M664 (1_2)	M683 (1_1)	M684 (1_2)	M685 (1_3)	M686 (3_3)	M687 (3_4)	M688 (4_1)	M689 (4_2)	M690 (4_3)	379 (1_1)	380 (1_2)	395 (3_7)	396 (3_8)	1182 [4-1]	1183 [4-2]	1184 [4-3]	1191 [5-5]	1192 [5-6]	1194 [6-1]
SiO2	37.45	37.92	38.27	38.12	38.16	37.82	38.19	37.34	37.93	37.99	37.83	37.88	37.67	37.84	38.31	37.85	37.75	37.49	38.16	37.68	37.97	38.42	38.50
TiO2	0.00	0.00	0.00	0.00	0.03	0.02	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.04	0.01	0.00	0.01
Al2O3	0.00	0.02	0.03	0.02	0.01	0.04	0.00	0.00	0.01	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Cr2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	0.00	0.04	0.02	0.01	0.03	0.00
MgO	35.27	36.15	36.44	36.02	35.64	35.18	36.30	35.78	36.17	36.13	35.99	36.03	36.27	35.47	36.07	35.42	35.11	35.83	36.28	36.19	36.40	36.92	36.72
CaO	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
MnO	0.40	0.37	0.37	0.39	0.33	0.37	0.41	0.38	0.38	0.32	0.33	0.36	0.33	0.30	0.39	0.37	0.41	0.42	0.40	0.39	0.39	0.41	0.40
FeO	25.73	25.47	25.21	25.71	26.48	24.86	25.18	25.68	25.43	25.98	24.88	25.39	25.06	25.43	25.35	25.28	25.36	26.13	25.75	26.36	26.25	25.91	25.25
NiO	0.05	0.09	0.07	0.04	0.05	0.06	0.07	0.07	0.09	0.08	0.08	0.06	0.07	0.03	0.00	0.02	0.03	0.05	0.00	0.02	0.06	0.00	0.08
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	98.91	100.04	100.38	100.30	100.73	98.36	100.15	99.26	100.03	100.52	99.13	99.75	99.40	99.15	100.12	98.94	98.69	99.96	100.64	100.70	101.08	101.69	100.96
Atoms per Unit formula																							
Si	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.00	1.00	1.00	1.01	1.00	1.00	1.01	1.01	1.01	1.01	1.00	1.00	0.99	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.41	1.42	1.43	1.41	1.40	1.40	1.42	1.42	1.42	1.42	1.43	1.42	1.44	1.41	1.42	1.41	1.40	1.42	1.42	1.42	1.42	1.43	1.43
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.58	0.56	0.55	0.57	0.58	0.56	0.55	0.57	0.56	0.57	0.55	0.56	0.56	0.57	0.56	0.56	0.57	0.58	0.57	0.58	0.58	0.56	0.55
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	3.00	3.00	2.99	3.00	3.00	2.99	2.99	3.00	3.00	3.00	2.99	3.00	3.00	2.99	2.99	2.99	2.99	3.00	3.00	3.01	3.00	3.00	3.00
Fo (%)	71	72	72	71	71	72	72	71	72	71	72	72	72	71	72	71	71	71	72	71	71	72	72
Fa (%)	29.04	28.33	27.96	28.59	29.41	28.39	28.01	28.70	28.29	28.74	27.95	28.33	27.93	28.69	28.28	28.59	28.83	29.03	28.48	29.01	28.80	28.25	27.84
Ni (ppm)	394	734	540	325	373	471	560	539	699	607	648	492	515	220	1	131	270	373	1	127	508	1	627
Mn (ppm)	3100	2887	2874	3007	2578	2847	3182	2922	2976	2474	2543	2792	2555	2351	3011	2898	3145	3231	3085	3018	3006	3138	3090

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP					Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (B)	Ol (C)	Ol (B)	Ol cum (C)	Ol intc (C)	Ol bleb inc Pl (C)	Ol cum (C)	Ol bleb inc Pl (C)	Ol cum (C)	Ol cum (B)	Ol (C)	Ol (B)
SAMPLE	ODV-D2	ODV-D4	ODV-D4	ODV-D4	CVD-19A	CVD-19A	CVD-19A	CVD-19A	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17D	CVD-17D	CVD-17D	CVD-17D	CVD-17D	CVD-16A	CVD-16A	CVD-16A	CVD-16A
Label	1195 [6-2]	1206 [5-2]	1207 [6-1]	1208 [6-2]	1044 [1-1]	1045 [1-2]	1051 [2-1]	1052 [2-2]	941 [1-1]	942 [1-2]	943 [1-3]	944 [1-4]	951 [2-1]	952 [2-2]	1001 [2-1]	1004 [2-4]	1005 [2-5]	1008 [1-1]	1009 [1-2]	984 [1-1]	985 [1-2]	991 [2-1]	992 [2-2]
SiO2	37.75	37.88	37.82	37.82	37.03	37.59	37.78	38.06	37.64	37.62	37.30	37.64	37.70	37.72	38.33	38.14	37.75	38.07	38.11	38.60	38.49	38.83	39.20
TiO2	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.03	0.02	0.04	0.02	0.00	0.00	0.01	0.00	0.01	0.05	0.00	0.00	0.02	0.00	0.01
Al2O3	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.04	0.00	0.03	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00
V2O3																							
Cr2O3	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.06	0.03	0.00	0.04	0.02	0.02	0.00
MgO	36.08	35.97	35.41	35.41	35.62	35.47	35.65	36.33	34.85	34.82	34.57	35.04	35.24	35.00	35.81	35.63	35.55	35.65	35.41	37.41	37.50	37.40	39.55
CaO	0.03	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00
MnO	0.31	0.48	0.45	0.41	0.34	0.37	0.38	0.32	0.44	0.37	0.41	0.47	0.44	0.41	0.04	0.33	0.41	0.37	0.43	0.39	0.39	0.30	0.31
FeO	24.65	26.44	27.09	26.65	26.75	26.61	26.95	25.64	26.60	26.34	26.15	26.75	26.10	27.04	25.83	26.14	26.32	25.15	25.00	23.67	23.82	22.82	21.80
NiO	0.10	0.02	0.00	0.01	0.05	0.05	0.01	0.03	0.02	0.04	0.00	0.03	0.00	0.02	0.05	0.04	0.00	0.06	0.05	0.03	0.07	0.31	0.03
ZnO																							
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	98.93	100.81	100.81	100.32	99.79	100.11	100.78	100.45	99.58	99.22	98.47	99.97	99.52	100.22	100.11	100.31	100.12	99.39	99.01	100.14	100.30	99.71	100.91
Atoms per Unit formula																							
Si	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.01	1.01	1.00	1.00	1.00	1.01	1.01	1.00	1.01	1.01	1.01	1.00	1.01	1.01
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.43	1.41	1.39	1.40	1.42	1.40	1.40	1.42	1.39	1.39	1.39	1.39	1.40	1.39	1.41	1.40	1.40	1.41	1.40	1.46	1.46	1.46	1.51
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.55	0.58	0.60	0.59	0.60	0.59	0.59	0.56	0.59	0.59	0.59	0.60	0.58	0.60	0.57	0.58	0.58	0.56	0.56	0.52	0.52	0.50	0.47
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	3.00	3.00	3.00	3.00	3.01	3.00	3.00	3.00	3.00	2.99	2.99	3.00	3.00	3.00	2.99	2.99	3.00	2.99	2.99	2.99	2.99	2.98	2.99
Fo (%)	72	71	70	70	70	70	70	72	70	70	70	70	71	70	71	71	71	72	72	74	74	74	76
Fa (%)	27.71	29.20	30.03	29.68	29.65	29.62	29.78	28.37	29.98	29.80	29.80	29.99	29.35	30.23	28.81	29.15	29.35	28.35	28.37	26.19	26.27	25.50	23.62
Ni (ppm)	754	167	1	56	358	414	112	239	159	341	1	270	1	143	365	278	1	485	374	222	541		272
Mn (ppm)	2364	3753	3498	3207	2663	2870	2954	2479	3399	2870	3141	3637	3377	3176		2537	3207	2869	3292	3015	2993	2339	2376

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gbnor	Ol Gbnor	Ol Gbnor	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Px Porh Ol Gb	Px Porh Ol Gb	Px Porh Ol Gb	Px Porh Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Ol cum (C)	Ol cum (B)	Ol cum (C)	Ol Cum (B)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (B)	Ol (C)	Ol (B)	Ol (C)
SAMPLE	CVD-16B	CVD-16B	CVD-15	CVD-15	CVD-15	CVD-15	CVD-12B	CVD-12B	CVD-12B	CVD-8	CVD-8	CVD-8	CVD-8	CVD-6A1	CVD-6A1	CVD-6A1	CVD-6A1	CVD-4A	CVD-4A	CVD-4A	CVD-2A	CVD-2A	CVD-2A
Label	1067 [1-1]	1068 [1-2]	1030 [4-1]	1031 [4-2]	1036 [5-1]	1037 [5-2]	822 (1-1)	823 (1-2)	851 (3-4)	804 (1-1)	805 (1-2)	813 (2-1)	814 (2-2)	786 [2-1]	787 [2-2]	792 {1-1}	793 [1-2]	826 (1-1)	827 (1-2)	835 (1-10)	858 (1-1)	859 (1-2)	866 (2-1)
SiO2	38.01	38.41	38.33	38.05	37.65	37.99	38.45	38.71	38.33	38.10	38.55	38.29	38.22	38.14	37.71	38.01	37.80	38.42	38.32	37.66	39.50	38.18	38.28
TiO2	0.00	0.01	0.00	0.01	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
V2O3																							
Cr2O3	0.03	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.01	0.04	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00
MgO	37.89	37.31	36.19	36.38	36.10	35.94	37.93	38.05	37.37	38.08	38.92	36.84	36.77	37.90	37.73	37.41	37.74	37.95	37.50	36.96	37.06	36.65	37.64
CaO	0.00	0.03	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.01	0.01	0.01	0.00
MnO	0.31	0.36	0.33	0.43	0.30	0.37	0.34	0.34	0.34	0.28	0.29	0.34	0.38	0.24	0.27	0.26	0.26	0.28	0.35	0.27	0.28	0.35	0.26
FeO	25.03	24.87	24.31	24.05	25.91	25.83	23.16	23.55	23.99	22.89	21.70	24.07	23.69	24.42	24.16	24.12	23.17	23.44	23.26	24.76	23.69	24.35	23.83
NiO	0.05	0.03	0.09	0.05	0.10	0.00	0.06	0.05	0.07	0.01	0.01	0.06	0.03	0.12	0.04	0.00	0.00	0.08	0.09	0.06	0.04	0.05	0.07
ZnO																							
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	101.33	101.02	99.26	98.99	100.06	100.16	100.00	100.70	100.16	99.44	99.49	99.66	99.09	100.84	99.94	99.82	98.98	100.16	99.53	99.74	100.59	99.60	100.08
Atoms per Unit formula																							
Si	0.99	1.00	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.01	0.99	0.99	1.00	1.00	1.00	1.01	0.99	1.02	1.01	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.47	1.45	1.43	1.44	1.42	1.41	1.48	1.47	1.46	1.49	1.51	1.44	1.45	1.47	1.48	1.47	1.49	1.48	1.47	1.46	1.43	1.44	1.47
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.54	0.54	0.54	0.53	0.57	0.57	0.51	0.51	0.52	0.50	0.47	0.53	0.52	0.53	0.53	0.53	0.51	0.51	0.51	0.55	0.51	0.54	0.52
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	3.01	3.00	2.99	2.99	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.99	2.99	3.01	3.01	3.00	3.00	3.00	2.99	3.01	2.98	2.99	3.00
Fo (%)	73	73	73	73	71	71	74	74	74	75	76	73	73	73	74	73	74	74	74	73	74	73	74
Fa (%)	27.04	27.22	27.36	27.05	28.70	28.73	25.52	25.78	26.47	25.21	23.82	26.83	26.55	26.55	26.43	26.56	25.62	25.73	25.82	27.32	26.39	27.15	26.21
Ni (ppm)	421	215	675	389	787	1	500	377	578	65	106	497	252	933	331	1	1	621	725	447	342	383	548
Mn (ppm)	2423	2781	2584	3313	2346	2836	2606	2647	2649	2181	2255	2599	2947	1888	2122	1980	2026	2168	2702	2116	2189	2713	1985

Table C.1- EPMA results for olivine (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol	Upp Ol
UNIT	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III	Leucog III
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ol (B)	Ol II(C)	Ol II(B)	Ol Intc (C)	Ol Intc (D)	Ol (C)	Ol cum (C)	Ol Bleb (C)	Ol Bleb (B)	Ol Intc (C)	Ol intc (B)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)
SAMPLE	CVD-2A	CVD-2A	CVD-2A	CVD-2C	CVD-2C	CVD-2C	CVD-2C	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-1A	CVD-1A	CVD-1A	CVD-1A	CVD-20	CVD-20	CVD-20	CVD-20
Label	867 (2-2)	868 (2-3)	869 (2-4)	899 [3-1]	900 [3-2]	906 [3-8]	907 [4-3]	875 (1-1)	876 (1-2)	878 (1-4)	879 (1-5)	887 (2-2)	969 [1-1]	970 [1-2]	976 [2-1]	977 [2-2]	925 [3-1]	926 [3-2]	933 [4-1]	934 [4-2]
SiO2	38.27	38.52	38.76	38.76	38.52	38.53	38.22	38.60	38.10	38.47	38.55	37.61	38.50	38.25	38.12	38.43	36.99	37.19	37.21	37.56
TiO2	0.00	0.00	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.05	0.01	0.02	0.04	0.01	0.00	0.01	0.03	0.03	0.02	0.00
Al2O3	0.00	0.00	0.03	0.00	0.00	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
V2O3																				
Cr2O3	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.05	0.04	0.01	0.05	0.03	0.00
MgO	36.91	37.30	36.95	36.80	37.06	37.48	37.08	37.86	37.50	37.71	37.74	38.40	36.15	36.15	36.45	36.15	34.32	34.48	34.96	35.15
CaO	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.01	0.00	0.00
MnO	0.35	0.31	0.28	0.41	0.40	0.35	0.41	0.32	0.29	0.35	0.35	0.34	0.33	0.38	0.43	0.44	0.42	0.36	0.41	0.40
FeO	23.81	23.72	23.40	23.13	23.48	22.85	22.94	22.41	22.19	22.21	22.31	23.23	24.64	24.10	23.61	22.87	28.10	28.30	27.12	27.26
NiO	0.02	0.04	0.00	0.03	0.05	0.04	0.06	0.03	0.05	0.07	0.00	0.02	0.01	0.11	0.00	0.07	0.03	0.06	0.04	0.04
ZnO																				
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.38	99.90	99.49	99.15	99.51	99.32	98.73	99.24	98.16	98.88	98.96	99.62	99.69	99.03	98.66	98.01	99.92	100.47	99.78	100.41
Atoms per Unit formula																				
Si	1.01	1.01	1.02	1.02	1.01	1.01	1.01	1.01	1.01	1.01	1.01	0.99	1.01	1.01	1.01	1.02	0.99	0.99	0.99	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.45	1.46	1.44	1.44	1.45	1.47	1.46	1.48	1.48	1.48	1.48	1.50	1.42	1.43	1.44	1.43	1.37	1.37	1.39	1.39
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.52	0.52	0.51	0.51	0.52	0.50	0.51	0.49	0.49	0.49	0.49	0.51	0.54	0.53	0.52	0.51	0.63	0.63	0.61	0.61
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catio	2.99	2.99	2.98	2.98	2.99	2.99	2.99	2.99	2.99	2.99	2.99	3.01	2.99	2.99	2.99	2.98	3.01	3.01	3.00	3.00
Fo (%)	73	74	74	74	74	75	74	75	75	75	75	75	72	73	73	74	69	68	70	70
Fa (%)	26.57	26.30	26.21	26.07	26.22	25.48	25.77	24.93	24.93	24.83	24.90	25.34	27.66	27.22	26.65	26.19	31.48	31.52	30.32	30.32
Ni (ppm)	163	351	1	232	415	287	486	203	389	552	1	171	87	827	1	580	262	467	311	311
Mn (ppm)	2701	2404	2191	3170	3092	2726	3182	2510	2266	2674	2724	2612	2575	2912	3303	3437	3281	2773	3153	3066

Table C.1- EPMA results for olivine (cont)

PROFILE	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Cpxnt-Microgb	Cpxnt-Microgb	Microgb	Microgb	Microgb	Microgb	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF	Hb Gb	Hb Gb	Hb Gb	Hb Gb	Hb Gb											Microgb	Microgb									
DESCRIP	Ol_inc_Hbl Br (C)	Ol_inc_Hbl Br (B)	Ol_inc_Hbl Br (C)	Ol (C)	Ol (B)	Ol Poik (C)	Ol Poik (B)	Ol cum (C)	Ol cum (C)	Ol Poik (B1)	Ol Poik (M)	Ol Poik (B2)	Ol (C)	Ol (B)	Ol cum (C)	Ol Poik (C)	Ol Poik (C)	Ol Poik (B)	Ol bleb inc Pl (C)	Ol cum (C)	Ol cum (C)	Ol cum (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)
SAMPLE	PERO G 5	PERO G 5	PERO G 5	PERO G 5	PERO G 5	CNT-23A	CNT-23A	CNT-23A	CNT-23A	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	SB-N1	SB-N1	CNT-24	CNT-24	CNT-24	CNT-24	CNT-26	CNT-26	CNT-26	CNT-26	CNT-19
Label	1914 [2-1]	1915 [2-2]	1916 [2-3]	1928 [5-1]	1929 [5-2]	1488 [2-1]	1489 [2-2]	1495 [3-1]	1496 [3-2]	1244 [3-1]	1245 [3-2]	1246 [3-3]	1250 [4-1]	1251 [4-2]	1472 [1-3]	1474 [1-5]	1454 [1-1]	1455 [1-2]	1464 [5-1]	1466 [5-3]	1377 [4-1]	1378 [4-2]	1379 [4-3]	1380 [4-4]	1551 [3-1]
SiO2	37.40	37.25	37.59	37.75	37.35	37.42	37.42	37.89	37.40	38.73	38.25	38.49	38.29	38.48	37.08	37.40	37.48	37.66	37.18	37.04	37.60	37.86	37.84	37.69	38.35
TiO2	0.07	0.00	0.00	0.01	0.02	0.01	0.02	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Al2O3	0.00	0.02	0.02	0.00	0.00	0.02	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.01
V2O3																									
Cr2O3	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.01	0.00	0.06	0.02	0.00	0.01	0.00	0.00	0.02
MgO	34.25	33.68	34.36	34.53	34.62	36.15	35.92	36.00	35.61	39.28	39.11	39.22	39.53	39.52	34.99	35.45	34.61	33.54	33.24	32.73	36.30	36.40	36.33	36.49	38.16
CaO	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00
MnO	0.32	0.41	0.35	0.34	0.36	0.39	0.38	0.36	0.40	0.29	0.23	0.28	0.32	0.28	0.34	0.37	0.42	0.39	0.38	0.41	0.40	0.39	0.37	0.38	0.31
FeO	27.63	28.19	27.44	26.87	26.72	25.73	25.59	25.61	24.48	20.33	21.24	21.42	21.20	20.58	25.90	25.62	27.17	27.75	28.55	28.39	25.54	24.56	25.34	25.04	22.79
NiO	0.02	0.09	0.06	0.07	0.10	0.13	0.04	0.06	0.09	0.09	0.11	0.08	0.09	0.08	0.08	0.06	0.03	0.02	0.00	0.02	0.01	0.03	0.02	0.00	0.05
ZnO																									
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**99.74**	**99.64**	**99.83**	**99.60**	**99.17**	**99.84**	**99.37**	**99.96**	**98.08**	**98.72**	**98.97**	**99.55**	**99.46**	**98.95**	**98.38**	**98.90**	**99.74**	**99.40**	**99.41**	**98.61**	**99.87**	**99.26**	**99.91**	**99.66**	**99.71**
Atoms per Unit formula																									
Si	1.00	1.00	1.00	1.01	1.00	0.99	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.37	1.35	1.37	1.37	1.38	1.43	1.43	1.42	1.43	1.53	1.53	1.52	1.53	1.54	1.41	1.41	1.38	1.34	1.34	1.33	1.43	1.44	1.43	1.44	1.49
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.62	0.63	0.61	0.60	0.60	0.57	0.57	0.57	0.55	0.44	0.46	0.47	0.46	0.45	0.58	0.57	0.61	0.62	0.64	0.65	0.57	0.54	0.56	0.55	0.50
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catior	**3.00**	**3.00**	**3.00**	**2.99**	**3.00**	**3.01**	**3.00**	**3.00**	**2.99**	**2.99**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**	**2.99**	**3.00**	**2.99**	**3.00**	**3.00**	**3.00**	**3.00**	**3.00**
Fo (%)	**69**	**68**	**69**	**70**	**70**	**71**	**71**	**71**	**72**	**78**	**77**	**77**	**77**	**77**	**71**	**71**	**69**	**68**	**67**	**67**	**72**	**73**	**72**	**72**	**75**
Fa (%)	31.16	31.95	30.94	30.39	30.21	28.53	28.55	28.52	27.83	22.50	23.35	23.46	23.13	22.61	29.34	28.84	30.57	31.70	32.52	32.74	28.30	27.46	28.12	27.79	25.10
Ni (ppm)	145	680	510	541	750	992	288	487	670	733	876	645	732	596	591	476	222	167	1	119	48	207	127	1	415
Mn (ppm)	2472	3156	2711	2658	2810	3035	2916	2824	3066	2220	1770	2152	2464	2192	2637	2841	3257	3038	2979	3141	3122	2984	2874	2972	2426

Table C.1- EPMA results for olivine (cont)

PROFILE	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF																									
DESCRIP	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol bleb (C)	Ol cum (C)	Ol (C)	Ol (B)	Ol Poik (C)	Ol Poik (B)	Ol Poik (C)	Ol Poik (B)	Ol megacx (C)	Ol megacx (M)	Ol megacx (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (B)	Ol ©
SAMPLE	CNT-19	CNT-19	CNT-19	SB-W3	SB-W3	SB-W3	SB-W3	SB-W3	SB-W3	CNT-17-1	CNT-17-1	CNT-17-1	CNT-17-1	CNT-15A	CNT-15A	CNT-15A	CNT-20	CNT-20	CNT-20	CNT-20	CNT-18	CNT-18	CNT-18	CNT-18	SB-14A
Label	1552 [3-2]	1559 [4-1]	1560 [4-2]	1685 [1-6]	1686 [1-7]	1692 [3-3]	1693 [3-4]	1698 [6-1]	1699 [6-2]	1397 [3-1]	1398 [3-2]	1404 [4-1]	1405 [4-2]	1351 [1-1]	1352 [1-2]	1353 [1-3]	1727 [3-5]	1728 [3-6]	1734 [5-1]	1735 [5-2]	1436 [1-1]	1437 [1-2]	1449 [3-1]	1450 [3-2]	503 (5_1)
SiO2	38.12	37.71	37.69	37.34	37.92	37.44	37.72	37.76	37.51	38.06	38.13	37.92	37.82	38.38	38.12	38.40	38.10	38.18	37.63	37.60	37.62	37.43	37.65	37.27	38.33
TiO2	0.01	0.00	0.00	0.00	0.02	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.04	0.00	0.00	0.03	0.02	0.00	0.01	0.01	0.00
Al2O3	0.01	0.00	0.00	0.01	0.01	0.00	0.02	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.03	0.00
V2O3																									
Cr2O3	0.00	0.01	0.03	0.03	0.03	0.04	0.02	0.05	0.04	0.00	0.00	0.03	0.03	0.00	0.00	0.02	0.01	0.05	0.00	0.00	0.00	0.05	0.00	0.00	0.00
MgO	38.02	37.66	37.49	35.21	35.56	35.36	35.17	36.30	35.86	37.41	38.16	37.61	38.84	38.73	38.40	38.63	36.38	35.96	35.92	35.77	36.79	36.80	37.18	36.93	38.42
CaO	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.03	0.00	0.00	0.02	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.03	0.00
MnO	0.30	0.33	0.28	0.40	0.38	0.38	0.40	0.45	0.41	0.32	0.40	0.37	0.34	0.23	0.30	0.30	0.38	0.36	0.35	0.31	0.30	0.32	0.22	0.37	0.34
FeO	23.00	23.76	23.92	25.29	25.46	25.14	25.14	24.61	25.19	24.47	23.18	23.27	22.82	22.17	22.81	22.79	25.39	25.40	26.23	25.94	23.60	23.78	23.28	24.44	23.16
NiO	0.06	0.06	0.00	0.11	0.02	0.07	0.08	0.09	0.05	0.04	0.07	0.01	0.09	0.03	0.03	0.09	0.07	0.08	0.03	0.07	0.05	0.05	0.03	0.10	0.06
ZnO																									
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.51	99.54	99.41	98.40	99.41	98.44	98.57	99.31	99.11	100.32	99.95	99.22	99.95	99.60	99.68	100.23	100.39	100.04	100.18	99.72	98.40	98.43	98.39	99.19	100.31
Atoms per Unit formula																									
Si	1.00	0.99	0.99	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	0.99	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.49	1.48	1.48	1.41	1.41	1.41	1.40	1.44	1.43	1.46	1.49	1.48	1.51	1.51	1.50	1.50	1.43	1.41	1.42	1.42	1.46	1.46	1.47	1.46	1.49
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Fe	0.50	0.52	0.53	0.57	0.57	0.56	0.56	0.55	0.56	0.54	0.51	0.51	0.50	0.48	0.50	0.50	0.56	0.56	0.58	0.58	0.53	0.53	0.52	0.54	0.50
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catior	3.00	3.01	3.00	3.00	2.99	2.99	2.99	3.00	3.00	3.00	3.00	3.00	3.01	3.00	3.00	3.00	3.00	2.99	3.00	3.00	3.00	3.00	3.00	3.01	3.00
Fo (%)	75	74	74	71	71	71	71	72	72	73	75	74	75	76	75	75	72	72	71	71	74	73	74	73	75
Fa (%)	25.33	26.14	26.36	28.72	28.66	28.51	28.62	27.55	28.27	26.84	25.42	25.77	24.79	24.31	24.99	24.87	28.14	28.38	29.06	28.92	26.46	26.60	26.00	27.07	25.26
Ni (ppm)	479	501	1	897	182	524	667	746	420	303	534	95	700	222	215	700	558	629	248	542	396	356	270	794	477
Mn (ppm)	2349	2537	2156	3067	2938	2929	3135	3458	3196	2471	3073	2895	2635	1788	2332	2333	2907	2819	2744	2385	2351	2513	1706	2875	2622

Table C.1- EPMA results for olivine (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF														Troct	Troct	Troct	Troct	Troct-Ore	Troct-Ore	Troct-Ore	Troct-Ore	Troct-Ore	Troct-Ore	Troct-Ore
DESCRIP	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol ©	Ol (B)
SAMPLE	SB-14A	SB-6	SB-6	SB-6	SB-6	CNT-27	CNT-27	CNT-27	CNT-27	SB-13	SB-13	SB-13	SB-13	SB-17-E	SB-17-E	SB-17-E	SB-17-E	SB-17C	SB-17C	SB-17C	SB-17C	SB-17E3	SB-17E3	SB-17E3	SB-17E3
Label	504 (5_2)	506 (1_1)	507 (1_2)	520 (6_1)	521 (6_2)	1802 [3-1]	1803 [3-2]	1805 [4-1]	1806 [4-2]	470 (2_1)	471 (2_2)	474 (3_1)	475 (3_2)	2570 [1-3]	2571 [1-4]	2574 [3-1]	2575 [3-2]	580 (2_2)	581 (2_3)	585 (4_1)	586 (4_2)	571 (2_1)	572 (2_2)	575 (4_1)	576 (4_2)
SiO2	38.17	38.05	38.08	38.49	38.49	37.14	36.87	37.17	37.89	38.16	38.08	37.93	39.00	37.89	37.91	37.53	37.30	38.46	38.65	38.27	38.41	38.41	38.20	38.41	38.37
TiO2	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
Al2O3	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V2O3																									
Cr2O3	0.05	0.05	0.01	0.00	0.04	0.00	0.04	0.00	0.03	0.02	0.00	0.00	0.03	0.00	0.02	0.00	0.01	0.04	0.04	0.00	0.00	0.02	0.00	0.02	0.00
MgO	38.40	38.22	37.86	38.56	38.43	35.57	35.56	35.48	35.41	38.61	38.94	38.38	39.27	37.43	37.48	37.53	36.98	39.68	39.65	39.03	39.24	38.64	38.39	39.21	39.25
CaO	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.01	0.01	0.06	0.04	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.01	0.43	0.00	0.01	0.19	0.00	0.00
MnO	0.30	0.34	0.35	0.33	0.33	0.36	0.31	0.37	0.43	0.33	0.29	0.32	0.24	0.31	0.38	0.35	0.31	0.41	0.39	0.42	0.44	0.43	0.40	0.35	0.42
FeO	23.24	23.23	23.76	23.19	22.89	25.94	26.16	25.71	26.24	21.59	21.22	21.59	21.11	24.81	25.47	24.57	23.97	21.02	20.81	21.80	21.38	21.97	22.24	20.96	21.03
NiO	0.09	0.09	0.08	0.04	0.03	0.02	0.06	0.09	0.13	0.07	0.06	0.10	0.00	0.04	0.03	0.02	0.05	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00
ZnO																									
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.26	99.98	100.13	100.64	100.23	99.05	99.01	98.82	100.14	98.86	98.64	98.31	99.68	100.51	101.32	100.01	98.62	99.61	99.68	99.96	99.49	99.48	99.42	98.95	99.07
Atoms per Unit formula																									
Si	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.01	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.49	1.49	1.48	1.49	1.49	1.42	1.42	1.42	1.40	1.51	1.52	1.51	1.52	1.46	1.46	1.47	1.47	1.54	1.53	1.51	1.52	1.50	1.50	1.53	1.53
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.51	0.51	0.52	0.50	0.50	0.58	0.59	0.58	0.58	0.47	0.47	0.48	0.46	0.54	0.56	0.54	0.53	0.46	0.45	0.47	0.47	0.48	0.49	0.46	0.46
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Catior	3.00	3.00	3.00	3.00	3.00	3.00	3.01	3.00	3.00	3.00	3.00	3.00	2.99	3.01	3.01	3.01	3.01	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Fo (%)	75	75	74	75	75	71	71	71	71	76	77	76	77	73	72	73	73	77	77	76	77	76	75	77	77
Fa (%)	25.35	25.43	26.04	25.23	25.05	29.04	29.22	28.90	29.37	23.88	23.41	23.99	23.17	27.11	27.60	26.86	26.67	22.90	22.75	23.86	23.41	24.18	24.53	23.07	23.11
Ni (ppm)	739	730	661	317	214	134	483	673	1014	523	462	760	1	299	218	138	412	83	1	42	111	7	1	1	1
Mn (ppm)	2314	2602	2689	2556	2551	2781	2390	2846	3354	2530	2273	2465	1824	2421	2955	2673	2387	3169	3054	3289	3409	3333	3134	2691	3238

Table C.1- EPMA results for olivine (cont)

PROFILE	1	1	1	1	2	2	2	2	2	3	3	3	3	3	3	3	3	1	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb
CLASIF																																			
DESCRIP	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol intc (C)	Ol intc (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol ©	Ol (B)	Ol ©	Ol ©	Ol (B)	Ol ©	Ol (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol intc (C)	Ol intc (B)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (B)					
SAMPLE	CNT-22	CNT-22	CNT-22	CNT-22	CNT-28	CNT-28	CNT-28	CNT-28	CNT-28	SB-11	SB-11	SB-11	SB-3	SB-3	SB-3	SB-3	CNT-21	CNT-21	CNT-21	CNT-21	CNT-21	MB-5	MB-5	MB-5	MB-5	SB-S3	SB-S3	SB-S3	SB-S3	SB-S5	SB-S5	SB-S5	SB-S5			
Label	1827 [1-5]	1828 [1-6]	1834 [2-5]	1835 [2-6]	1818 [3-1]	1819 [3-2]	1820 [4-1]	1821 [4-2]	1822 [4-3]	427 (4_1)	428 (4_2)	433 (5_1)	451 (1_3)	452 (1_4)	455 (2_1)	456 (2_2)	1746 [2-3]	1747 [2-4]	1748 [2-5]	1756 [4-1]	1757 [4-2]	1789 [5-1]	1790 [5-2]	1793 [5-5]	1794 [5-6]	2538 [2-1]	2539 [2-2]	2548 [4-1]	2549 [4-2]	2562 [4-1]	2563 [4-2]	2566 [5-1]	2567 [5-2]			
SiO2	36.45	36.81	36.56	36.37	36.80	37.16	37.15	37.35	36.89	38.02	37.70	38.11	37.15	37.18	37.36	37.52	37.76	38.22	38.24	38.21	37.68	36.97	37.01	36.97	37.16	37.99	38.02	37.89	37.89	38.05	37.91	37.45	38.27		
TiO2	0.00	0.02	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.03	0.09	0.00	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.02	0.01	0.01		
Al2O3	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
V2O3																																			
Cr2O3	0.03	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.04	0.00	0.02	0.07	0.00	0.00	0.03	0.00	0.04	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.00	0.00		
MgO	33.97	34.04	34.40	34.31	35.09	35.31	35.18	34.69	33.83	35.77	35.28	34.71	34.02	33.89	34.72	34.52	35.19	35.03	34.79	35.16	34.79	35.35	35.23	34.81	35.82	36.82	36.53	36.62	36.53	38.04	38.63	37.21	38.00		
CaO	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.09	0.00	0.15	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.03	0.02	0.02	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.03		
MnO	0.32	0.40	0.46	0.40	0.41	0.44	0.02	0.00	0.00	0.32	0.28	0.36	0.41	0.46	0.38	0.42	0.38	0.37	0.42	0.31	0.34	0.40	0.39	0.35	0.44	0.31	0.28	0.28	0.25	0.25	0.32	0.32	0.32		
FeO	28.18	27.99	28.51	27.58	26.78	27.17	27.98	27.46	29.14	26.11	25.78	27.19	28.22	28.00	27.21	27.12	26.72	26.64	26.39	27.03	26.86	25.76	26.12	26.57	26.96	24.41	24.16	25.25	24.60	24.20	23.39	23.56	24.50		
NiO	0.02	0.00	0.00	0.05	0.06	0.00	0.03	0.05	0.05	0.00	0.01	0.00	0.09	0.03	0.06	0.03	0.05	0.05	0.07	0.05	0.08	0.00	0.00	0.02	0.10	0.03	0.07	0.07	0.10	0.04	0.09	0.08	0.06		
ZnO																																			
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total	98.98	99.29	99.95	98.72	99.22	100.09	100.39	99.56	99.93	100.24	99.05	100.49	99.95	99.80	99.77	99.64	100.11	100.33	100.00	100.77	99.76	98.51	98.79	98.78	100.51	99.58	99.08	100.14	99.38	100.58	100.39	98.63	101.18		
Atoms per Unit formula																																			
Si	0.99	0.99	0.98	0.99	0.99	0.99	0.99	1.00	0.99	1.00	1.01	1.01	1.00	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00	1.00	0.99	1.00	1.01	1.00	1.00	0.99	0.99	1.00	0.99		
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Mg	1.37	1.37	1.38	1.39	1.41	1.40	1.40	1.38	1.36	1.41	1.40	1.37	1.36	1.36	1.38	1.38	1.39	1.38	1.37	1.38	1.38	1.42	1.41	1.40	1.42	1.45	1.44	1.44	1.44	1.48	1.50	1.48	1.47		
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
Fe	0.64	0.63	0.64	0.63	0.60	0.61	0.62	0.61	0.66	0.58	0.58	0.60	0.63	0.63	0.61	0.61	0.59	0.59	0.58	0.60	0.60	0.58	0.59	0.60	0.60	0.54	0.54	0.56	0.54	0.53	0.51	0.52	0.53		
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
SUM Catio	3.01	3.01	3.02	3.01	3.01	3.01	3.01	3.00	3.01	3.00	2.99	2.99	3.00	3.00	3.00	3.00	3.00	2.99	2.99	2.99	3.00	3.00	3.00	3.00	3.01	3.00	2.99	3.00	3.00	3.01	3.01	3.00	3.01		
Fo (%)	68	68	68	69	70	70	69	69	67	71	71	69	68	68	69	69	70	70	70	70	70	71	71	70	70	73	73	72	73	74	75	74	73		
Fa (%)	31.76	31.56	31.74	31.08	29.98	30.15	30.85	30.75	32.58	29.05	29.07	30.53	31.76	31.66	30.54	30.59	29.87	29.91	29.85	30.13	30.23	29.02	29.37	29.98	29.69	27.11	27.06	27.89	27.42	26.31	25.36	26.21	26.57		
Ni (ppm)	134	1	1	358	479	1	218	379	387	20	97	1	703	269	483	214	422	382	549	389	667	1	1	184	798	259	526	549	776	311	739	609	449		
Mn (ppm)	2495	3119	3555	3091	3198	3419				2486	2172	2773	3190	3551	2933	3229	2965	2868	3270	2438	2610	3080	3053	2734	3377	2438	2152	2149	1959	1909	2450	2478	2448		

Table C.1- EPMA results for olivine (cont)

PROFILE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2
SERIES	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	Bas	Bas	Bas	Bas	Bas
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb
CLASIF	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct					
DESCRIP	Ol relic (C)	Ol relic (C)	Ol relic (C)	Ol relic (C)	Ol relic (B)	Ol relic (C)	Ol relic (C)	Ol relic (B)	Ol (C)	Ol (B)	Ol I (C)	Ol I (B)	Ol II (C)	Ol I (C)	Ol I (B)	Ol II (C)	Ol I (C)	Ol I (B)	Ol (C)	Ol (B)	Ol cum (C)	Ol cum (C)	Ol cum (C)
SAMPLE	FA-4	FA-4	FA-4	FA-4	FA-4	FA-4	FA-4	FA-4	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	CNT-8	CNT-8	CNT-8	CNT-8	CNT-2
Label	1255 [3-3]	1256 [3-4]	1264 [6-5]	1265 [7-3]	1266 [7-4]	1269 [8-5]	1276 [11-1]	1277 [11-2]	1663 [2-1]	1664 [2-2]	1673 [4-1]	1674 [4-2]	1675 [4-3]	1678 [10-6]	1679 [10-7]	1680 [10-8]	1681 [5-1]	1682 [5-2]	1303 [2-3]	1304 [2-4]	1309 [4-1]	1310 [4-2]	1291 [4-1]
SiO2	40.38	40.25	40.72	39.82	40.17	40.26	39.45	40.11	40.13	39.95	39.66	40.23	40.26	40.19	39.97	40.12	40.65	40.22	37.11	37.74	37.60	38.07	37.55
TiO2	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.03	0.00	0.00
Al2O3	0.02	0.00	0.00	0.03	0.00	0.00	0.05	0.02	0.01	0.00	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.01	0.00	0.01
V2O3																							
Cr2O3	0.00	0.01	0.03	0.04	0.01	0.02	0.03	0.00	0.04	0.01	0.03	0.06	0.03	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.02
MgO	46.49	46.83	46.46	45.62	46.13	46.32	46.02	46.47	46.29	46.66	46.89	46.99	46.29	47.01	46.84	46.82	47.83	47.11	36.46	36.01	36.56	36.26	35.42
CaO	0.00	0.03	0.01	0.00	0.02	0.00	0.04	0.03	0.00	0.01	0.01	0.03	0.02	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00
MnO	0.28	0.20	0.21	0.20	0.17	0.17	0.28	0.25	0.18	0.20	0.18	0.11	0.20	0.24	0.22	0.17	0.15	0.21	0.39	0.34	0.40	0.39	0.41
FeO	13.19	13.53	13.39	12.86	12.71	12.99	13.57	13.20	12.61	12.50	12.61	12.48	12.29	12.45	12.84	12.33	12.00	12.70	25.04	25.00	25.13	24.73	24.77
NiO	0.16	0.21	0.19	0.20	0.15	0.23	0.17	0.22	0.13	0.11	0.16	0.11	0.11	0.16	0.18	0.20	0.09	0.14	0.05	0.05	0.03	0.00	0.04
ZnO																							
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.51	101.05	101.02	98.77	99.40	100.00	99.60	100.32	99.39	99.44	99.57	100.02	99.20	100.06	100.05	99.67	100.75	100.40	99.11	99.14	99.76	99.44	98.23
Atoms per Unit formula																							
Si	1.00	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.01	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.01	1.01
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.72	1.72	1.71	1.71	1.72	1.72	1.72	1.72	1.72	1.74	1.75	1.74	1.72	1.74	1.74	1.74	1.75	1.74	1.45	1.43	1.44	1.43	1.42
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Fe	0.27	0.28	0.28	0.27	0.27	0.27	0.28	0.27	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.26	0.25	0.26	0.56	0.56	0.56	0.55	0.56
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	3.00	3.01	3.00	3.00	3.00	3.00	3.01	3.00	3.00	3.00	3.01	3.00	2.99	3.00	3.01	3.00	3.00	3.00	3.01	3.00	3.00	2.99	2.99
Fo (%)	86	86	86	86	87	86	86	86	87	87	87	87	87	87	87	87	88	87	72	72	72	72	72
Fa (%)	13.73	13.95	13.92	13.65	13.39	13.59	14.20	13.74	13.25	13.07	13.10	12.96	12.96	12.94	13.33	12.88	12.34	13.13	27.81	28.03	27.83	27.67	28.17
Ni (ppm)	1219	1633	1457	1577	1155	1800	1337	1717	987	835	1220	837	877	1250	1432	1551	711	1078	420	365	207	8	303
Mn (ppm)	2157	1551	1648	1552	1343	1354	2133	1973	1375	1529	1432	815	1565	1882	1706	1335	1193	1634	3058	2668	3100	3004	3211

Table C.1- EPMA results for olivine (cont)

PROFILE	2	2	2	2	3	3	3	3	3	1	1	1	1	2	2	2	2	3	3	3	3	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Low	Low
UNIT	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Px Gb I	Px Gb I
CLASIF																							
DESCRIP	Ol cum (C)	Ol Poik (C)	Ol Poik (B)	Ol cum (C)	Ol cum (C)	Ol cum (B)	Ol (C)	Ol (B)	Ol (C)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol cum (C)	Ol cum (C)
SAMPLE	CNT-2	CNT-2	CNT-2	CNT-2	CNT-29	CNT-29	CNT-29	CNT-29	CNT-29	CNT-9	CNT-9	CNT-9	CNT-9	CNT-1	CNT-1	CNT-1	CNT-1	CNT-30	CNT-30	CNT-30	CNT-30	CNT-10	CNT-10
Label	1292 [4-2]	1295 [5-1]	1296 [5-2]	1300 [5-6]	1320 [2-3]	1321 [2-4]	1326 [5-4]	1327 [5-5]	1328 [5-6]	1517 [1-4]	1518 [1-5]	1524 [3-3]	1525 [3-4]	1502 [1-4]	1503 [1-5]	1512 [3-1]	1513 [3-2]	1570 [3-5]	1571 [3-6]	1576 [6-1]	1577 [6-2]	1531 [2-3]	1532 [2-4]
SiO2	37.52	37.87	38.15	37.88	37.45	36.68	37.64	37.43	37.06	37.87	38.11	37.96	37.80	39.04	38.70	39.14	39.09	37.72	37.40	37.93	36.97	38.37	38.46
TiO2	0.00	0.00	0.00	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00	0.00	0.02	0.00	0.03	0.01	0.01	0.00
Al2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
V2O3																							
Cr2O3	0.03	0.00	0.04	0.04	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.02	0.03	0.00	0.01	0.00	0.04
MgO	35.64	36.30	36.28	36.27	36.20	35.75	36.28	36.26	36.20	35.20	35.54	35.67	35.47	36.70	36.08	36.91	37.16	32.48	32.44	33.71	32.21	34.71	34.78
CaO	0.02	0.00	0.01	0.03	0.00	0.01	0.00	0.02	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.01
MnO	0.41	0.37	0.44	0.41	0.36	0.36	0.41	0.35	0.44	0.37	0.39	0.43	0.41	0.35	0.39	0.36	0.36	0.40	0.39	0.40	0.44	0.41	0.37
FeO	24.77	26.41	25.63	25.93	25.12	25.94	25.64	25.65	25.24	24.80	25.01	25.20	25.10	23.35	23.40	23.53	23.17	28.98	29.47	28.70	29.44	26.55	25.85
NiO	0.10	0.08	0.03	0.07	0.02	0.11	0.02	0.02	0.05	0.03	0.04	0.02	0.07	0.06	0.06	0.01	0.06	0.00	0.03	0.04	0.04	0.04	0.01
ZnO																							
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	98.49	101.03	100.60	100.66	99.16	98.84	100.03	99.73	99.00	98.28	99.12	99.30	98.90	99.52	98.67	99.99	99.88	99.62	99.75	100.81	99.12	100.10	99.53
Atoms per Unit formula																							
Si	1.00	0.99	1.00	1.00	1.00	0.99	1.00	0.99	0.99	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.01	1.02	1.02
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.42	1.42	1.42	1.42	1.44	1.43	1.43	1.43	1.44	1.41	1.41	1.41	1.41	1.43	1.42	1.44	1.45	1.30	1.31	1.34	1.31	1.37	1.38
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.55	0.58	0.56	0.57	0.56	0.58	0.57	0.57	0.56	0.56	0.56	0.56	0.56	0.51	0.52	0.51	0.51	0.65	0.67	0.64	0.67	0.59	0.57
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	2.99	3.01	3.00	3.00	3.00	3.01	3.00	3.01	3.01	2.99	2.99	2.99	2.99	2.98	2.98	2.98	2.98	2.98	2.99	2.99	2.99	2.98	2.98
Fo (%)	72	71	72	71	72	71	72	72	72	72	72	72	72	74	73	74	74	67	66	68	66	70	71
Fa (%)	28.05	28.98	28.38	28.63	28.02	28.93	28.39	28.41	28.12	28.33	28.31	28.38	28.41	26.31	26.68	26.34	25.92	33.36	33.76	32.32	33.90	30.02	29.42
Ni (ppm)	812	661	239	515	167	825	190	167	413	200	312	175	525	463	503	97	457	1	223	287	303	333	79
Mn (ppm)	3155	2901	3436	3186	2776	2816	3144	2709	3371	2895	3026	3313	3175	2678	2994	2823	2824	3124	3014	3107	3373	3171	2891

Table C.1- EPMA results for olivine (cont)

PROFILE	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
CLASIF						Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core										
DESCRIP	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol cum (C)	Ol cum (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)
SAMPLE	CNT-10	CNT-10	CNT-10	CNT-10	CNT-10	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	CNT-11	CNT-11	CNT-11	CNT-11	MB-4	MB-4	MB-4	MB-4	CNT-7	CNT-7
Label	1533 [2-5]	1536 [4-3]	1537 [4-4]	1540 [5-1]	1541 [5-2]	1961 [3-4]	1962 [3-5]	1968 [4-4]	1969 [4-5]	1972 [6-1]	1973 [6-2]	1978 [7-1]	1979 [7-2]	1624 [1-1]	1625 [1-2]	1632 [2-1]	1633 [2-2]	1842 [1-1]	1843 [1-2]	1850 [2-1]	1851 [2-2]	1602 [1-1]	1603 [1-2]
SiO2	38.28	38.08	38.56	38.36	38.23	37.39	37.61	37.44	37.49	37.51	37.50	37.63	37.28	37.84	37.94	37.81	37.94	37.62	38.05	37.50	37.89	38.47	38.72
TiO2	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.02	0.03
Al2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00
V2O3																							
Cr2O3	0.01	0.02	0.00	0.01	0.00	0.00	0.05	0.05	0.00	0.00	0.06	0.02	0.02	0.02	0.03	0.05	0.00	0.00	0.00	0.02	0.02	0.00	0.00
MgO	34.93	34.70	34.96	34.76	34.56	34.59	34.59	34.68	34.56	34.78	35.00	34.56	34.11	34.61	34.97	34.67	34.85	37.55	37.86	37.31	37.12	38.57	38.88
CaO	0.00	0.01	0.01	0.02	0.03	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.05	0.02	0.01	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.01
MnO	0.37	0.38	0.36	0.37	0.41	0.40	0.41	0.34	0.30	0.39	0.33	0.39	0.35	0.40	0.46	0.42	0.43	0.30	0.33	0.35	0.36	0.34	0.39
FeO	26.18	26.84	26.44	25.67	25.74	27.38	27.30	26.98	26.29	26.83	26.59	27.38	27.43	26.55	26.68	25.48	27.85	23.76	23.73	24.31	24.14	21.71	20.80
NiO	0.09	0.09	0.06	0.03	0.06	0.00	0.06	0.03	0.03	0.01	0.04	0.00	0.00	0.06	0.09	0.08	0.06	0.02	0.06	0.02	0.05	0.09	0.07
ZnO																							
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.86	100.12	100.39	99.22	99.03	99.78	100.04	99.52	98.68	99.53	99.52	99.99	99.24	99.50	100.19	98.52	101.13	99.24	100.08	99.56	99.60	99.21	98.90
Atoms per Unit formula																							
Si	1.01	1.01	1.02	1.02	1.02	1.00	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.01	1.01	1.01	1.00	0.99	1.00	0.99	1.00	1.01	1.01
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.38	1.37	1.37	1.38	1.37	1.38	1.37	1.38	1.39	1.39	1.39	1.37	1.37	1.38	1.38	1.39	1.37	1.48	1.48	1.47	1.46	1.50	1.51
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.58	0.60	0.58	0.57	0.57	0.61	0.61	0.60	0.59	0.60	0.59	0.61	0.62	0.59	0.59	0.57	0.61	0.53	0.52	0.54	0.53	0.47	0.45
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	2.99	2.99	2.98	2.98	2.98	3.00	3.00	3.00	2.99	3.00	3.00	3.00	3.00	2.99	2.99	2.99	3.00	3.01	3.00	3.01	3.00	2.99	2.99
Fo (%)	70	70	70	71	71	69	69	70	70	70	70	69	69	70	70	71	69	74	74	73	73	76	77
Fa (%)	29.60	30.26	29.79	29.29	29.47	30.75	30.69	30.39	29.91	30.21	29.89	30.77	31.08	30.09	29.97	29.19	30.95	26.20	26.01	26.77	26.73	24.00	23.08
Ni (ppm)	674	681	451	262	491	1	493	218	251	81	339	1	1	478	670	622	510	160	470	182	358	716	581
Mn (ppm)	2836	2906	2789	2846	3138	3116	3202	2628	2324	2989	2542	3038	2675	3076	3568	3223	3335	2343	2551	2721	2785	2661	3003

Table C.1- EPMA results for olivine (cont)

PROFILE	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF											Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb								
DESCRIP	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol Poik (C)	Ol Poik (B)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)
SAMPLE	CNT-7	CNT-7	CNT-7	CNT-7	MB-1	MB-1	MB-1	MB-1	MB-1	MB-1	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-14	CNT-14	CNT-32	CNT-32	CNT-32	CNT-32	CNT-32	CNT-32
Label	1608 [2-1]	1609 [2-2]	1614 [3-1]	1615 [3-2]	1861 [3-13]	1862 [3-14]	1868 [4-3]	1869 [4-4]	1874 [5-1]	1875 [5-2]	1645 [2-9]	1646 [2-10]	1655 [4-5]	1656 [4-6]	1657 [5-1]	1658 [5-2]	1715 [3-4]	1716 [3-5]	1758 [1-1]	1759 [1-2]	1760 [1-3]	1771 [3-5]	1772 [3-6]	1773 [3-7]
SiO2	38.82	39.00	38.77	38.56	37.54	37.43	37.70	38.10	37.90	38.19	38.03	38.02	37.96	38.17	37.69	37.56	38.44	38.17	37.86	38.28	37.95	38.05	37.82	38.21
TiO2	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.01	0.01	0.02	0.00
Al2O3	0.05	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V2O3																								
Cr2O3	0.00	0.00	0.00	0.02	0.00	0.05	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00
MgO	38.84	38.89	39.04	38.99	36.97	37.28	36.82	37.10	37.08	37.37	36.70	36.60	37.03	37.22	36.34	36.36	37.15	36.69	35.51	35.98	35.79	35.85	35.78	35.91
CaO	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.03	0.01	0.02	0.01	0.01	0.02	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.00
MnO	0.38	0.35	0.34	0.37	0.41	0.34	0.35	0.35	0.32	0.29	0.42	0.32	0.31	0.34	0.39	0.44	0.32	0.34	0.38	0.30	0.00	0.38	0.32	0.39
FeO	21.37	21.58	21.63	21.19	24.09	24.39	23.85	23.44	23.72	23.68	25.28	24.79	24.76	24.36	25.52	25.57	23.90	24.07	25.02	25.25	25.41	25.17	24.79	25.15
NiO	0.05	0.06	0.08	0.09	0.03	0.11	0.06	0.05	0.09	0.03	0.06	0.05	0.03	0.09	0.05	0.04	0.06	0.07	0.05	0.06	0.02	0.00	0.02	0.03
ZnO																								
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.52	99.90	99.85	99.24	99.04	99.63	98.81	99.08	99.14	99.57	100.55	99.79	100.12	100.22	100.02	99.99	99.87	99.36	98.87	99.86	99.20	99.46	98.81	99.69
Atoms per Unit formula																								
Si	1.01	1.01	1.01	1.01	1.00	0.99	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.51	1.50	1.51	1.52	1.46	1.47	1.46	1.46	1.46	1.46	1.44	1.44	1.45	1.45	1.43	1.43	1.45	1.44	1.41	1.42	1.42	1.42	1.42	1.41
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01
Fe	0.46	0.47	0.47	0.46	0.53	0.54	0.53	0.52	0.52	0.52	0.55	0.55	0.54	0.53	0.56	0.57	0.52	0.53	0.56	0.56	0.56	0.56	0.55	0.56
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	2.99	2.99	2.99	2.99	3.00	3.01	3.00	2.99	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.01	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99
Fo (%)	76	76	76	77	73	73	73	74	74	74	72	72	73	73	72	72	73	73	72	72	72	72	72	72
Fa (%)	23.59	23.73	23.71	23.36	26.77	26.85	26.66	26.16	26.41	26.22	27.87	27.53	27.28	26.85	28.26	28.29	26.51	26.90	28.33	28.24	28.48	28.26	27.99	28.21
Ni (ppm)	398	470	637	732	247	846	477	429	681	251	471	407	247	733	383	335	460	540	421	493	191	8	160	207
Mn (ppm)	2915	2729	2617	2880	3148	2596	2717	2680	2501	2228	3237	2465	2430	2594	3015	3428	2445	2597	2930	2301		2929	2483	3005

Table C.1- EPMA results for olivine (cont)

PROFILE	3	3	3	3	3	3	0	0	0	0	0	0	0	1	1	1	1	2	2	2	2	1	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb III	Px Gb III	Px Gb III
CLASIF							Troct	Troct	Troct	Troct	Troct	Troct	Troct											
DESCRIP	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol core (C)	Ol core (B)	Ol outter (C)	Ol core (C)	Ol core (B)	Ol outter (C)	Ol (C)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)
SAMPLE	CNT-6A	CNT-6A	CNT-6A	CNT-6A	CNT-6A	CNT-6A	MB-16	MB-16	MB-16	MB-16	MB-16	MB-16	MB-16	CNT-13	CNT-13	CNT-13	CNT-13	CNT-31	CNT-31	CNT-31	CNT-31	CNT-33	CNT-33	CNT-33
Label	1581 [1-1]	1582 [1-2]	1583 [1-3]	1589 [2-1]	1590 [2-2]	1591[2-3]	2260 [1-1]	2261[1-2]	2262 [1-3]	2269 [3-1]	2270 [3-2]	2270 A[3-3]	2271[4-1]	2057 [2-14]	2058 [2-15]	2063[4-1]	2064[4-2]	2027 [1-1]	2028 [1-2]	2034 [4-1]	2035 [4-2]	2072[1-1]	2075[1-4]	2076[1-5]
SiO2	37.97	38.28	38.25	38.20	38.56	38.83	38.94	38.58	38.59	39.57	38.78	39.02	38.83	37.90	38.32	37.91	37.90	38.16	38.02	37.97	38.09	38.02	38.35	37.93
TiO2	0.04	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.01	0.01	0.03	0.00	0.03	0.01	0.01	0.00	0.00
Al2O3	0.00	0.01	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.03
V2O3																								
Cr2O3	0.00	0.02	0.00	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.01	0.03	0.03	0.01	0.00	0.00	0.00	0.05	0.00	0.00
MgO	36.62	36.68	36.79	37.01	37.34	37.38	41.02	40.41	40.44	40.85	40.16	40.64	41.00	36.69	37.31	37.06	36.78	37.54	36.97	37.26	37.16	37.36	37.62	37.63
CaO	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.03	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.03
MnO	0.30	0.31	0.35	0.33	0.38	0.36	0.27	0.29	0.34	0.29	0.32	0.29	0.26	0.30	0.35	0.40	0.35	0.34	0.35	0.32	0.33	0.31	0.34	0.31
FeO	24.43	23.20	22.99	23.26	23.31	23.85	20.40	20.31	20.58	20.03	20.44	20.25	20.72	24.33	23.24	24.71	23.97	23.68	23.80	23.40	23.75	24.39	24.41	24.11
NiO	0.13	0.04	0.06	0.03	0.07	0.11	0.06	0.06	0.05	0.06	0.08	0.06	0.04	0.07	0.02	0.09	0.06	0.03	0.08	0.03	0.06	0.02	0.04	0.11
ZnO																								
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.51	98.55	98.46	98.87	99.77	100.53	100.72	99.67	100.01	100.80	99.85	100.29	100.87	99.30	99.27	100.21	99.11	99.81	99.21	99.02	99.54	100.17	100.75	100.15
Atoms per Unit formula																								
Si	1.00	1.01	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.00	1.00	0.99	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.44	1.45	1.45	1.46	1.46	1.45	1.56	1.56	1.56	1.55	1.55	1.55	1.56	1.45	1.46	1.45	1.45	1.47	1.46	1.47	1.46	1.46	1.46	1.47
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.54	0.51	0.51	0.51	0.51	0.52	0.44	0.44	0.44	0.43	0.44	0.43	0.44	0.54	0.51	0.54	0.53	0.52	0.53	0.52	0.52	0.53	0.53	0.53
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	3.00	2.99	2.99	2.99	2.99	2.99	3.00	3.00	3.00	2.99	3.00	3.00	3.01	3.00	2.99	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Fo (%)	73	74	74	74	74	74	78	78	78	78	78	78	78	73	74	73	73	74	73	74	74	73	73	74
Fa (%)	27.23	26.18	25.96	26.07	25.94	26.36	21.81	22.00	22.20	21.57	22.21	21.84	22.08	27.11	25.89	27.22	26.78	26.14	26.53	26.05	26.39	26.80	26.69	26.44
Ni (ppm)	1049	286	438	200	542	869	494	478	372	452	654	436	306	525	138	673	478	218	648	202	436	194	275	890
Mn (ppm)	2314	2362	2712	2554	2915	2804	2098	2251	2606	2215	2463	2234	2024	2301	2679	3094	2694	2643	2690	2456	2572	2363	2613	2402

Table C.1- EPMA results for olivine (cont)

PROFILE	1	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF																		Transitio n	Transitio n	Transitio n	Transitio n	Transitio n	Transitio n	Transitio n
DESCRIP	Ol cum (C)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol (C)	Ol (B)	Ol Poik (C)	Ol Poik (B)	Ol Poik (C)	Ol Poik (B)	Ol cum (C)	Ol cum (C)	Ol_inc_c px (C)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)	Ol (B)	Ol (C)
SAMPLE	CNT-33	CNT-36	CNT-36	CNT-36	CNT-36	CNT-36	CNT-36	CNT-36	CNT-34	CNT-34	CNT-34	CNT-34	CNT-35	CNT-35	CNT-35	CNT-35	CNT-35	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4
Label	2087 [4-1]	2194 [5-1]	2195 [5-2]	2198 [5-5]	2199 [5-6]	2200 [4-1]	2201 [4-2]	2202 [4-3]	2120 [1-1]	2121 [1-2]	2126 [2-1]	2127 [2-2]	2166 [1-1]	2167 [1-2]	2175 [5-1]	2176 [5-2]	2181 [5-7]	2337 [4-1]	2338 [4-2]	2341 [5-1]	2342 [5-2]	2344 [6-1]	2345 [6-2]	2352 [7-1]
SiO2	38.19	38.05	38.01	37.86	38.08	38.26	37.97	38.37	38.94	38.35	38.64	38.32	37.97	37.90	37.77	37.97	38.01	39.09	38.99	38.59	38.45	38.38	38.56	38.31
TiO2	0.00	0.01	0.00	0.01	0.02	0.00	0.00	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02
Al2O3	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V2O3																								
Cr2O3	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.06	0.00	0.00	0.00	0.03	0.00	0.00	0.02	0.06	0.00	0.01
MgO	37.28	37.55	37.41	38.17	38.17	37.82	37.76	37.90	40.35	40.45	40.21	39.80	36.84	36.57	36.22	35.55	36.28	38.87	39.06	38.18	38.39	38.16	38.42	38.30
CaO	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.01	0.02	0.00	0.02
MnO	0.31	0.32	0.32	0.33	0.36	0.30	0.37	0.02	0.25	0.26	0.26	0.30	0.35	0.35	0.32	0.36	0.38	0.28	0.32	0.25	0.24	0.29	0.32	0.25
FeO	24.57	24.47	23.85	23.70	23.89	23.91	23.91	23.95	20.96	20.94	20.78	21.71	24.68	25.04	25.45	25.82	25.65	22.12	22.29	22.43	22.73	23.10	23.03	22.58
NiO	0.08	0.07	0.09	0.13	0.08	0.03	0.06	0.08	0.10	0.11	0.12	0.09	0.10	0.03	0.09	0.12	0.07	0.13	0.14	0.14	0.09	0.11	0.13	0.13
ZnO																								
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.44	100.48	99.70	100.21	100.63	100.34	100.07	100.41	100.61	100.12	100.01	100.28	99.96	99.98	99.85	99.83	100.41	100.54	100.81	99.61	99.96	100.13	100.47	99.61
Atoms per Unit formula																								
Si	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.01	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.45	1.46	1.47	1.49	1.48	1.47	1.48	1.47	1.54	1.56	1.55	1.54	1.45	1.44	1.43	1.40	1.42	1.50	1.50	1.49	1.49	1.48	1.49	1.49
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.54	0.54	0.52	0.52	0.52	0.52	0.52	0.52	0.45	0.45	0.45	0.47	0.54	0.55	0.56	0.57	0.56	0.48	0.48	0.49	0.50	0.50	0.50	0.49
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	3.00	3.00	3.00	3.01	3.01	3.00	3.00	3.00	3.00	3.01	3.00	3.01	3.00	3.00	3.00	2.99	3.00	2.99	3.00	2.99	3.00	3.00	3.00	3.00
Fo (%)	73	73	74	74	74	74	74	74	77	77	78	77	73	72	72	71	72	76	76	75	75	75	75	75
Fa (%)	27.00	26.77	26.34	25.83	25.99	26.18	26.21	26.17	22.56	22.50	22.47	23.43	27.32	27.75	28.28	28.95	28.39	24.20	24.25	24.78	24.93	25.35	25.17	24.86
Ni (ppm)	615	582	728	1012	615	259	501	597	809	899	906	695	776	242	703	921	549	1011	1068	1098	743	867	1053	985
Mn (ppm)	2372	2486	2443	2558	2779	2360	2847		1911	2046	1977	2310	2674	2720	2463	2796	2939	2195	2492	1923	1875	2244	2474	1922

Table C.1- EPMA results for olivine (cont)

PROFILE	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF	Transitio n	Transitio n	Transitio n																						
DESCRIP	Ol (B)	Ol (C)	Ol (B)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (C)	Ol intc (C)	Ol cum (B)	Ol cum (C)	Ol cum (B)	Ol cum (C)	Ol cum (C)	Ol cum (C)	Ol cum (C)	Ol cum (C)	Ol intc (C)	Ol intc (B)	Ol cum (C)	Ol cum (C)	Ol cum (B)	Ol intc (C)	Ol intc (B)	Ol intc (C)
SAMPLE	CNT-4	CNT-4	CNT-4	MB-11	MB-11	MB-11	MB-11	MB-11	MB-11	MB-13	MB-13	MB-13	CNT-5A	CNT-5A	CNT-5A	CNT-5A	CNT-5B	CNT-5B	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3B	CNT-3B	CNT-3B
Label	2353 [7-2]	2358 [8-1]	2359 [8-2]	2420 [1-1]	2421[1-2]	2424 [1-5]	2432 [3-3]	2433 [3-4]	2436 [3-7]	2521[2-1]	2522 [2-2]	2523 [3-3]	2375 [3-3]	2376 [3-4]	2384 [4-1]	2385 [4-2]	2508 [3-4]	2509 [3-5]	2403 [1-3]	2404 [1-4]	2406 [1-6]	2411 [3-1]	2412 [3-2]	2499 [4-2]	2500 [4-4]	2503 [5-1]
SiO2	38.36	38.34	38.37	37.85	38.07	37.84	37.84	37.93	37.95	37.87	37.53	38.13	38.43	38.52	38.30	38.63	38.76	38.83	37.66	37.64	37.49	37.49	37.56	37.93	37.71	38.27
TiO2	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.04	0.01	0.00	0.02	0.00
Al2O3	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.03	0.00
V2O3																										
Cr2O3	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.05	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.02	0.04
MgO	37.97	38.03	38.16	37.14	36.56	36.08	36.51	36.99	36.58	36.03	35.73	36.77	38.51	39.13	38.34	38.39	39.17	39.41	35.83	35.62	34.96	35.61	35.78	36.09	35.82	36.46
CaO	0.00	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.03	0.01	0.00	0.01	0.04	0.00	0.02	0.02	0.00	0.00	0.00
MnO	0.32	0.26	0.26	0.31	0.29	0.27	0.29	0.23	0.28	0.32	0.35	0.32	0.25	0.29	0.30	0.23	0.27	0.27	0.32	0.30	0.30	0.33	0.33	0.39	0.30	0.38
FeO	21.71	22.38	22.90	24.96	23.76	26.27	24.75	25.38	25.66	24.71	25.28	25.66	21.50	21.63	22.09	22.14	22.39	22.74	25.95	26.39	26.32	26.14	25.17	25.86	25.09	25.28
NiO	0.13	0.08	0.04	0.02	0.08	0.02	0.01	0.00	0.07	0.06	0.09	0.02	0.10	0.05	0.04	0.05	0.06	0.09	0.07	0.07	0.07	0.05	0.10	0.03	0.02	0.07
ZnO																										
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	98.57	99.11	99.74	100.28	98.79	100.50	99.43	100.52	100.57	99.03	99.04	100.94	98.80	99.63	99.09	99.47	100.70	101.34	99.86	100.07	99.15	99.69	98.99	100.32	99.01	100.50
Atoms per Unit formula																										
Si	1.01	1.01	1.00	0.99	1.01	1.00	1.00	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ti	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	1.49	1.49	1.49	1.46	1.45	1.42	1.44	1.45	1.43	1.43	1.42	1.43	1.51	1.52	1.50	1.49	1.51	1.51	1.42	1.41	1.40	1.41	1.42	1.42	1.42	1.43
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fe	0.48	0.49	0.50	0.55	0.53	0.58	0.55	0.56	0.56	0.55	0.56	0.56	0.47	0.47	0.48	0.48	0.48	0.49	0.58	0.59	0.59	0.58	0.56	0.57	0.56	0.55
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
SUM Cation	2.99	2.99	3.00	3.01	2.99	3.00	3.00	3.00	3.00	2.99	3.00	3.00	2.99	3.00	3.00	2.99	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.99	3.00
Fo (%)	76	75	75	73	73	71	72	72	72	72	72	72	76	76	76	76	76	76	71	71	70	71	72	71	72	72
Fa (%)	24.29	24.82	25.18	27.37	26.71	29.00	27.55	27.79	28.24	27.78	28.41	28.14	23.85	23.67	24.43	24.44	24.28	24.46	28.89	29.36	29.70	29.17	28.29	28.67	28.21	28.00
Ni (ppm)	1047	626	349	170	622	129	73	1	534	460	719	194	801	356	317	414	494	713	542	526	541	429	794	211	194	525
Mn (ppm)	2484	1992	2027	2375	2272	2057	2211	1761	2191	2492	2671	2456	1927	2273	2318	1789	2083	2082	2483	2301	2358	2572	2535	3024	2317	2931

Table C.2- EPMA results for clinopyroxene

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Troct	Troct	Troct	Troct	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Troct	Troct	Ol Leucog	Ol Leucog
DESCRIP	Cpx I ©	Cpx I (B)	Cpx (C)	Cpx (B)	Cpx intc ©	Cpx intc (B)	Cpx intc ©	Cpx intc (B)	Cpx intc ©	Cpx intc (B)	Cpx intc ©	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx inc Oxd (C)	Cpx inc Oxd (B)
SAMPLE	RS-6	RS-6	RS-7	RS-7	RS-8	RS-8	RS-8	RS-8	RS-8	RS-8	RS-8	RS-9	RS-9	RS-9	RS-9	RS-10	RS-10	RS-15	RS-15
Label	239 (4_1)	240 (4_2)	1168 [1-3]	1169 [1-4]	281 (1_1)	282 (1_2)	283 (2_1)	284 (2_2)	287 (4_1)	288 (4_2)	290 (5_1)	261(6_1)	262 (6_2)	265 (7_1)	266 (7_2)	184 (5_1)	185 (5_2)	1099 [4-3]	1100 [4-4]
SiO2	52.85	53.78	52.92	55.68	53.31	52.40	53.44	53.10	52.73	54.12	53.00	54.23	53.53	54.34	54.10	54.31	54.22	54.25	52.81
TiO2	0.29	0.12	0.63	0.12	0.59	0.61	0.60	0.55	0.64	0.43	0.61	0.65	0.60	0.33	0.41	0.31	0.25	0.38	0.63
Al2O3	1.96	1.61	2.69	1.16	2.63	2.68	2.36	2.24	2.59	1.57	2.04	1.84	1.99	2.05	1.82	2.07	1.54	1.64	3.16
V2O3																			
Cr2O3	0.70	0.54	0.76	0.11	0.82	0.96	0.85	0.79	0.99	0.44	0.72	0.15	0.18	0.91	0.58	0.12	0.08	0.39	0.99
MgO	16.96	16.86	16.45	17.52	16.15	15.93	16.27	16.23	15.74	16.61	16.23	16.88	16.64	16.41	16.83	16.19	16.21	16.56	15.27
CaO	22.67	22.80	22.34	22.89	22.21	22.53	22.08	22.39	22.42	22.74	22.27	22.65	22.72	22.99	23.04	22.96	23.05	22.89	22.78
MnO	0.08	0.09	0.09	0.10	0.14	0.07	0.11	0.08	0.08	0.08	0.12	0.14	0.10	0.09	0.13	0.12	0.13	0.14	0.18
FeO	2.91	2.82	3.13	3.10	3.40	3.16	3.48	3.09	3.16	3.40	3.35	3.89	3.84	3.49	3.67	4.25	4.18	3.93	4.84
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.02	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.32	0.29	0.33	0.22	0.46	0.40	0.45	0.40	0.40	0.32	0.34	0.36	0.35	0.47	0.38	0.32	0.32	0.30	0.44
K2O	0.02	0.00	0.55	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Total	**98.74**	**98.91**	**99.34**	**100.90**	**99.71**	**98.73**	**99.64**	**98.88**	**98.74**	**99.72**	**98.68**	**100.80**	**99.95**	**101.09**	**100.97**	**100.64**	**99.98**	**100.46**	**101.09**
T																			
Si	1.95	1.97	1.93	2.00	1.95	1.93	1.95	1.95	1.94	1.97	1.95	1.96	1.95	1.96	1.95	1.97	1.98	1.97	1.92
Al IV	0.05	0.03	0.07	0.00	0.05	0.07	0.05	0.05	0.06	0.03	0.05	0.04	0.05	0.04	0.05	0.03	0.02	0.03	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.03	0.04	0.05	0.05	0.06	0.05	0.05	0.05	0.06	0.04	0.04	0.04	0.04	0.05	0.03	0.06	0.04	0.04	0.05
Fe3+	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.01	0.00	0.02	0.00	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02
Cr3+	0.020	0.016	0.022	0.003	0.024	0.028	0.025	0.023	0.029	0.013	0.021	0.004	0.005	0.026	0.016	0.004	0.002	0.011	0.029
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.93	0.92	0.89	0.94	0.88	0.88	0.89	0.89	0.86	0.90	0.89	0.91	0.90	0.88	0.91	0.87	0.88	0.90	0.83
Fe2+	0.00	0.02	0.00	0.01	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.06	0.06	0.04	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.08	0.07	0.08	0.08	0.08	0.07	0.09	0.07	0.07	0.07	0.08	0.09	0.08	0.07	0.08	0.07	0.06	0.08	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Ca2+	0.89	0.90	0.87	0.88	0.87	0.89	0.86	0.88	0.89	0.89	0.88	0.88	0.89	0.89	0.89	0.89	0.90	0.89	0.89
Na+	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.03
TOTAL M2	**1.00**	**0.99**	**0.97**	**0.98**	**0.99**	**0.99**	**0.98**	**0.99**	**0.98**	**0.99**	**0.99**	**0.99**	**1.00**	**0.99**	**1.00**	**0.99**	**0.99**	**0.99**	**1.00**
Wo (%)	47	47	47	46	47	48	46	47	48	47	47	46	46	47	47	47	47	47	48
En (%)	**49**	**48**	**48**	**49**	**47**	**47**	**48**	**48**	**47**	**48**	**47**	**48**	**47**	**47**	**47**	**46**	**46**	**47**	**44**
Fs (%)	5	5	5	5	6	5	6	5	5	6	6	6	6	6	6	7	7	6	8
Q	1.90	1.91	1.85	1.91	1.85	1.86	1.86	1.87	1.85	1.89	1.88	1.90	1.91	1.87	1.91	1.89	1.91	1.91	1.86
J	0.05	0.04	0.05	0.03	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.07	0.05	0.04	0.04	0.04	0.06
Cr (ppm)	4808	3687	5192	763	5635	6599	5836	5429	6785	3032	4921	1002	1210	6246	3935	844	540	2653	6795
Ti (ppm)	1713	700	3790	712	3532	3645	3623	3287	3825	2604	3686	3897	3587	1971	2453	1836	1518	2252	3747
Mn (pmm)	623	695	723	746	1087	510	816	654	624	624	932	1074	767	695	1034	933	1012	1060	1385
Mg#	**0.91**	**0.91**	**0.90**	**0.91**	**0.89**	**0.90**	**0.89**	**0.90**	**0.90**	**0.90**	**0.90**	**0.89**	**0.89**	**0.89**	**0.89**	**0.87**	**0.87**	**0.88**	**0.85**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx Poik inc Oxd	Cpx Poik inc Oxd	Cpx cum (B)	Cpx Poik inc Oxd	Cpx Poik inc Oxd	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)	
SAMPLE	RS-15	RS-15	RS-15	RS-16	RS-16	RS-16	RS-17	RS-17	RS-17	RS-17	RS-18	RS-18	RS-18	RS-18	RS-21	RS-21	RS-21	RS-21	RS-21	
Label	1104 [6-4]	1105 [6-5]	1101[6-1]	1077 [5-1]	1078 [5-2]	1087 [7-2]	1108 [4-4]	1109 [4-5]	1118 [5-5]	1119 [5-6]	1149A [3-5]	1150A [3-6]	1156A [4-5]	1157A [4-6]	1131[3-4]	1133 [3-6]	1134 [3-7]	1139 [4-3]	1140 [4-4]	
SiO2	51.72	53.87	52.97	50.87	54.99	53.14	52.76	53.13	53.83	53.02	53.23	53.41	53.62	53.83	54.27	53.52	54.00	53.68	54.71	
TiO2	0.76	0.61	0.61	0.54	0.25	0.65	0.45	0.30	0.34	0.41	0.67	0.59	0.66	0.51	0.78	0.41	0.65	0.47	0.42	
Al2O3	3.47	2.64	2.63	3.04	1.44	2.17	2.58	2.07	2.07	2.64	2.69	2.21	2.55	2.45	2.57	2.47	2.11	2.50	1.79	
V2O3																				
Cr2O3	1.16	0.85	0.71	0.80	0.15	0.02	0.64	0.24	0.48	0.55	0.44	0.11	0.12	0.15	0.51	0.29	0.18	0.47	0.16	
MgO	15.60	15.88	15.99	15.76	16.99	15.57	15.24	16.26	15.52	15.17	16.27	15.75	16.46	16.11	16.20	16.65	16.99	16.62	16.59	
CaO	22.12	22.06	22.50	20.28	21.99	22.56	21.75	22.79	21.99	21.43	20.56	21.86	20.91	21.49	21.51	21.13	20.96	20.77	22.06	
MnO	0.18	0.12	0.11	0.18	0.16	0.18	0.22	0.13	0.19	0.21	0.13	0.16	0.15	0.21	0.18	0.14	0.19	0.11	0.13	
FeO	4.60	4.38	4.28	6.74	4.79	5.31	5.21	4.70	5.30	5.50	5.39	5.05	5.62	4.87	5.08	5.22	5.68	5.22	4.64	
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ZnO																				
Na2O	0.57	0.43	0.38	0.36	0.28	0.34	0.46	0.31	0.47	0.48	0.38	0.42	0.36	0.46	0.39	0.37	0.27	0.40	0.34	
K2O	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.01	0.00	0.01	
Total	100.19	100.84	100.18	98.58	101.02	99.94	99.32	99.91	100.19	99.42	99.74	99.55	100.45	100.08	101.47	100.21	101.03	100.24	100.85	
T																				
Si	1.89	1.95	1.93	1.90	1.98	1.95	1.95	1.94	1.97	1.95	1.95	1.96	1.95	1.96	1.95	1.95	1.95	1.95	1.98	
Al IV	0.11	0.05	0.07	0.10	0.02	0.05	0.05	0.06	0.03	0.05	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.02	
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
M1																				
Al VI	0.04	0.06	0.05	0.03	0.04	0.04	0.06	0.03	0.06	0.07	0.06	0.06	0.06	0.07	0.06	0.06	0.04	0.06	0.05	
Fe3+	0.03	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Ti4+	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.01	
Cr3+	0.034	0.024	0.021	0.024	0.004	0.000	0.019	0.007	0.014	0.016	0.013	0.003	0.003	0.004	0.014	0.008	0.005	0.013	0.004	
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mg2+	0.85	0.86	0.87	0.88	0.91	0.85	0.84	0.89	0.85	0.83	0.89	0.86	0.89	0.88	0.87	0.90	0.92	0.90	0.89	
Fe2+	0.02	0.04	0.05	0.01	0.03	0.08	0.07	0.04	0.07	0.07	0.02	0.06	0.03	0.04	0.04	0.02	0.02	0.01	0.04	
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
M2																				
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fe2+	0.09	0.09	0.09	0.16	0.11	0.08	0.09	0.08	0.09	0.10	0.15	0.09	0.14	0.11	0.12	0.14	0.15	0.15	0.10	
Mn2+	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	
Ca2+	0.87	0.86	0.88	0.81	0.85	0.89	0.86	0.89	0.86	0.85	0.81	0.86	0.81	0.84	0.83	0.82	0.81	0.81	0.85	
Na+	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	
TOTAL M2	1.00	0.98	1.00	1.00	0.99	1.00	0.99	1.00	0.99	0.99	0.98	0.99	0.99	0.99	0.98	0.99	0.99	0.99	0.98	
Wo (%)	47	46	47	43	44	47	46	46	46	46	43	46	43	45	45	44	43	43	45	
En (%)	46	46	46	46	48	45	45	46	45	45	48	46	47	47	47	48	48	48	47	
Fs (%)	8	7	7	11	8	9	9	8	9	9	9	9	9	8	9	9	9	9	8	
Q	1.83	1.84	1.88	1.85	1.91	1.90	1.86	1.91	1.87	1.85	1.86	1.88	1.88	1.86	1.85	1.89	1.90	1.87	1.89	
J	0.08	0.06	0.05	0.05	0.04	0.05	0.07	0.04	0.07	0.07	0.05	0.06	0.05	0.07	0.05	0.05	0.04	0.06	0.05	
Cr (ppm)	7963	5803	4875	5473	1005	116	4350	1651	3294	3765	2990	772	794	1014	3482	1971	1238	3209	1068	
Ti (ppm)	4576	3666	3646	3213	1478	3914	2721	1805	2057	2481	3992	3519	3929	3082	4650	2457	3892	2796	2536	
Mn (pmm)	1355	960	822	1414	1243	1384	1694	973	1474	1608	1036	1230	1148	1599	1358	1100	1450	822	1027	
Mg#	0.86	0.87	0.87	0.81	0.86	0.84	0.84	0.86	0.84	0.83	0.84	0.85	0.84	0.85	0.85	0.85	0.84	0.85	0.86	

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB II	SB II	SB II	SB II	SB II	ODV I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Cum
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Ol Webs
DESCRIP	Cpx ©	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx (B)	Cpx ©	Cpx (B)	Cpx I ©	Cpx I (B)	Cpx II ©	Cpx (C)	Cpx (B)	Cpx (C)	Cpx inc oxd	Cpx inc oxd	Cpx G1 ©
SAMPLE	RS-2	RS-1A	RS-1A	RS-1A	RS-1A	RS-1B	RS-1B	RS-1B	RS-1B	RS-1B	RS-3	RS-3	RS-3	RS-11	RS-11	RS-11	RS-11	RS-11	ODV-4-A-2
Label	223 (2_1)	219 (3_1)	220 (3_2)	221(4_1)	222 (4_2)	198 (1_3)	199 (1_4)	200 (1_4B)	205 (2_3)	206 (2_4)	249 (1_1)	250 (1_2)	251(1_3)	294 (2_5)	295 (2_6)	298 (3_6)	300 (4_3)	301(4_4)	M270 (1_1)
SiO2	54.22	52.67	53.01	52.51	54.47	53.21	54.29	53.87	53.05	53.75	53.67	53.07	52.68	52.17	53.03	53.22	52.80	52.97	52.10
TiO2	0.25	0.82	0.58	0.75	0.19	0.47	0.33	0.32	0.59	0.50	0.51	0.60	0.56	0.41	0.40	0.29	0.35	0.27	0.79
Al2O3	1.41	2.59	2.21	2.52	1.23	2.35	1.85	1.97	2.63	2.57	2.07	2.48	2.28	1.54	1.39	1.15	1.67	1.42	1.89
V2O3																			0.00
Cr2O3	0.19	0.01	0.00	0.08	0.06	0.16	0.19	0.15	0.31	0.35	0.07	0.10	0.13	0.04	0.01	0.03	0.00	0.02	0.02
MgO	15.86	14.47	14.45	14.53	14.71	15.97	16.13	16.14	15.86	15.61	15.80	15.57	16.24	14.03	14.23	14.29	13.97	14.33	14.33
CaO	22.58	21.95	22.32	21.96	23.30	22.10	22.28	22.16	20.48	21.78	21.64	21.47	20.73	20.59	20.75	21.46	21.25	21.81	20.38
MnO	0.22	0.17	0.20	0.15	0.16	0.20	0.15	0.17	0.16	0.17	0.19	0.14	0.18	0.27	0.29	0.32	0.28	0.24	0.36
FeO	4.74	6.52	6.77	6.79	5.93	5.39	4.65	4.86	6.30	5.69	5.98	6.26	6.81	9.19	8.76	8.58	8.72	8.55	10.58
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			0.00
Na2O	0.04	0.44	0.02	0.00	0.04	0.42	0.37	0.36	0.40	0.35	0.34	0.42	0.39	0.24	0.31	0.31	0.29	0.31	0.34
K2O	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.01
Total	**99.51**	**99.63**	**99.56**	**99.29**	**100.09**	**100.28**	**100.24**	**100.00**	**99.78**	**100.77**	**100.26**	**100.11**	**100.00**	**98.49**	**99.17**	**99.64**	**99.32**	**99.93**	**100.80**
T																			
Si	1.99	1.95	1.96	1.95	2.00	1.94	1.98	1.97	1.95	1.95	1.96	1.95	1.93	1.97	1.98	1.98	1.97	1.97	1.93
Al IV	0.01	0.05	0.04	0.05	0.00	0.06	0.02	0.03	0.05	0.05	0.04	0.05	0.07	0.03	0.02	0.02	0.03	0.03	0.07
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.05	0.06	0.06	0.06	0.05	0.05	0.06	0.05	0.06	0.06	0.05	0.05	0.03	0.04	0.04	0.03	0.05	0.03	0.01
Fe3+	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.04
Ti4+	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02
Cr3+	0.005	0.000	0.000	0.002	0.002	0.005	0.005	0.004	0.009	0.010	0.002	0.003	0.004	0.001	0.000	0.001	0.000	0.001	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.87	0.80	0.80	0.80	0.80	0.87	0.87	0.88	0.87	0.85	0.86	0.85	0.89	0.79	0.79	0.79	0.78	0.79	0.79
Fe2+	0.07	0.12	0.13	0.11	0.14	0.06	0.06	0.06	0.04	0.07	0.07	0.07	0.03	0.16	0.15	0.16	0.16	0.16	0.13
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.08	0.08	0.08	0.10	0.05	0.10	0.09	0.09	0.15	0.11	0.11	0.12	0.15	0.13	0.12	0.10	0.11	0.10	0.15
Mn2+	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.89	0.87	0.89	0.87	0.92	0.87	0.87	0.87	0.81	0.85	0.85	0.84	0.82	0.83	0.83	0.86	0.85	0.87	0.81
Na+	0.00	0.03	0.00	0.00	0.00	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
TOTAL M2	**0.97**	**0.99**	**0.97**	**0.97**	**0.97**	**1.00**	**0.99**	**0.99**	**0.99**	**0.98**	**0.99**	**1.00**	**1.00**	**0.99**	**0.99**	**0.99**	**0.99**	**1.00**	**1.00**
Wo (%)	47	46	47	46	48	45	46	46	43	45	45	45	42	43	44	44	45	45	42
En (%)	**45**	**43**	**42**	**42**	**42**	**46**	**46**	**46**	**46**	**45**	**45**	**45**	**46**	**41**	**42**	**41**	**41**	**41**	**41**
Fs (%)	8	11	11	11	10	9	8	8	11	10	10	10	11	16	15	14	15	14	17
Q	1.90	1.87	1.89	1.89	1.90	1.89	1.89	1.89	1.87	1.87	1.89	1.89	1.89	1.91	1.90	1.92	1.90	1.93	1.89
J	0.01	0.06	0.00	0.00	0.01	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.06	0.04	0.05	0.05	0.04	0.04	0.05
Cr (ppm)	1293	36	1	557	389	1117	1266	1034	2144	2400	450	668	861	289	49	181	1	157	150
Ti (ppm)	1528	4940	3494	4480	1136	2822	1974	1941	3521	2991	3073	3590	3365	2466	2420	1724	2087	1639	4740
Mn (pmm)	1667	1284	1539	1182	1245	1581	1133	1337	1223	1300	1492	1052	1419	2096	2250	2512	2155	1872	2802
Mg#	**0.86**	**0.80**	**0.79**	**0.79**	**0.82**	**0.84**	**0.86**	**0.86**	**0.82**	**0.83**	**0.82**	**0.82**	**0.81**	**0.73**	**0.74**	**0.75**	**0.74**	**0.75**	**0.71**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Ol Webs	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl
DESCRIP	Cpx G2 (C)	Cpx G3 (C)	Cpx G4 (C)	Cpx G5 (C)	Cpx ©	Cpx (B)	Cpx G2 ©	Cpx G3 ©	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx G2 ©	Cpx ©	Cpx (B)	Cpx G2 (C)	Cpx ©	Cpx (B)	Cpx ©
SAMPLE	ODV-4-A2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-4-A-2	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1
Label	M 271(1_2)	M 272 (1_3)	M 273 (1_3)	M 274 (1_4)	M 275 (2_1)	M 276 (2_2)	M 277 (2_3)	M 278 (2_4)	M 280 (3_2)	M 279 (3_1)	M 180 (6_2)	M 179 (6_1)	M 181(6_3)	M 183 (7_2)	M 182 (7_1)	M 184 (7_3)	M 186 (8_2)	M 185 (8_1)	M 188 (9_2)
SiO2	51.76	51.69	52.07	52.20	52.21	51.45	51.96	51.96	52.61	51.89	51.91	51.49	52.12	51.10	51.75	51.90	51.36	51.79	52.17
TiO2	0.71	0.63	0.81	0.72	0.68	0.72	0.68	0.81	0.69	0.69	0.68	0.64	0.62	1.00	0.69	0.69	0.63	0.62	0.66
Al2O3	1.95	2.01	1.99	1.88	1.89	1.86	2.13	1.93	1.81	2.07	1.78	1.72	1.69	1.58	1.80	1.88	1.66	1.80	1.75
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr2O3	0.00	0.00	0.00	0.01	0.01	0.01	0.04	0.03	0.04	0.02	0.02	0.02	0.03	0.01	0.02	0.00	0.00	0.00	0.02
MgO	13.88	13.82	13.66	13.77	14.21	14.10	13.48	13.93	14.80	14.08	14.00	13.79	14.37	13.77	13.77	14.06	13.97	13.98	13.82
CaO	21.64	21.67	21.69	20.93	20.66	20.76	21.50	21.18	19.61	21.02	20.71	20.60	19.41	20.44	20.28	20.42	20.20	20.22	20.69
MnO	0.33	0.33	0.30	0.28	0.31	0.33	0.31	0.32	0.40	0.35	0.39	0.41	0.42	0.36	0.35	0.39	0.38	0.38	0.35
FeO	9.69	9.64	9.46	10.02	9.45	10.11	9.31	9.33	11.23	10.02	9.56	9.78	10.72	10.62	9.62	10.02	9.70	9.23	9.68
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na2O	0.41	0.37	0.42	0.39	0.32	0.36	0.42	0.40	0.33	0.37	0.42	0.46	0.38	0.44	0.41	0.41	0.45	0.46	0.43
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Total	100.37	100.17	100.41	100.20	99.74	99.71	99.85	99.90	101.52	100.50	99.47	98.91	99.76	99.31	98.70	99.77	98.35	98.48	99.58
T																			
Si	1.92	1.92	1.94	1.95	1.95	1.93	1.94	1.94	1.94	1.93	1.95	1.94	1.95	1.93	1.96	1.94	1.95	1.96	1.95
Al IV	0.08	0.08	0.06	0.05	0.05	0.07	0.06	0.06	0.06	0.07	0.05	0.06	0.05	0.07	0.04	0.06	0.05	0.04	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.01	0.01	0.02	0.03	0.03	0.01	0.04	0.02	0.01	0.02	0.02	0.02	0.03	0.00	0.04	0.02	0.02	0.04	0.03
Fe3+	0.06	0.05	0.03	0.01	0.00	0.05	0.02	0.02	0.03	0.05	0.02	0.04	0.02	0.06	0.00	0.03	0.03	0.00	0.01
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02
Cr3+	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.77	0.77	0.76	0.76	0.79	0.79	0.75	0.78	0.81	0.78	0.78	0.78	0.80	0.77	0.78	0.78	0.79	0.79	0.77
Fe2+	0.14	0.15	0.17	0.17	0.15	0.13	0.18	0.16	0.12	0.14	0.15	0.15	0.14	0.14	0.17	0.14	0.14	0.15	0.17
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.10	0.10	0.10	0.13	0.14	0.13	0.10	0.11	0.19	0.13	0.13	0.12	0.18	0.14	0.14	0.14	0.13	0.14	0.13
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.86	0.86	0.86	0.84	0.83	0.83	0.86	0.85	0.77	0.84	0.83	0.83	0.78	0.82	0.82	0.82	0.82	0.82	0.83
Na+	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	44	45	45	43	43	43	45	44	40	43	43	43	40	42	43	42	43	43	43
En (%)	40	40	39	40	41	40	39	40	42	40	41	40	42	40	41	41	41	41	40
Fs (%)	16	16	16	17	16	17	16	16	18	17	16	17	18	18	16	17	17	16	16
Q	1.87	1.88	1.89	1.90	1.91	1.88	1.89	1.89	1.90	1.88	1.89	1.88	1.90	1.88	1.90	1.88	1.89	1.90	1.90
J	0.06	0.05	0.06	0.06	0.05	0.05	0.06	0.06	0.05	0.05	0.06	0.07	0.05	0.06	0.06	0.06	0.07	0.07	0.06
Cr (ppm)	0	0	12	50	101	50	289	200	299	150	144	144	203	72	144	0	0	0	144
Ti (ppm)	4252	3770	4843	4327	4080	4303	4080	4832	4132	4152	4092	3864	3697	6000	4138	4125	3758	3714	3959
Mn (pmm)	2576	2539	2320	2181	2394	2565	2412	2512	3075	2674	2989	3185	3234	2761	2723	3006	2930	2956	2722
Mg#	0.72	0.72	0.72	0.71	0.73	0.71	0.72	0.73	0.70	0.71	0.72	0.72	0.70	0.70	0.72	0.71	0.72	0.73	0.72

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Wehrl	Wehrl	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx
DESCRIP	Cpx (B)	Cpx ©	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx_inc_oxd/sulf (C)	Cpx_inc_oxd/sulf (B)	Cpx G1©	Cpx G2 ©	Cpx G3 ©	Cpx (C)	Cpx (B)	Cpx II ©	Cpx II (B)	Cpx I ©	Cpx I (B)	Cpx I ©	Cpx I (B)
SAMPLE	ODV-G-1	ODV-G-1	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36
Label	M 187 (9_1)	M 299 (1_2)	M 190 (1_2)	M 189 (1_1)	M 192 (1_2)	M 191 (1_1)	M 194 (3_2)	M 193 (3_1)	M 195 (4_1)	M 196 (4_2)	M 197 (4_3)	M 199 (5_2)	M 198 (5_1)	307 (1_1)	308 (1_2)	313 (3_3)	314 (3_4)	315 (4_1)	316 (4_2)
SiO2	52.04	52.50	52.13	52.15	51.60	52.02	51.81	51.85	52.06	51.53	51.94	51.15	52.09	52.38	52.50	52.45	51.72	51.91	52.87
TiO2	0.75	0.62	0.68	0.63	0.57	0.70	0.69	0.69	0.67	0.55	0.72	0.63	0.67	0.58	0.53	0.49	0.70	0.61	0.42
Al2O3	1.81	1.98	1.76	1.85	1.83	1.85	1.79	1.78	1.78	1.89	1.82	1.98	1.73	1.88	1.87	1.69	1.96	1.98	1.72
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Cr2O3	0.00	0.00	0.03	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.03	0.06	0.00	0.00	0.01	0.00	0.00	0.00	0.03
MgO	14.05	13.97	13.75	13.74	13.85	13.95	14.01	13.95	14.13	14.37	14.66	13.42	13.91	14.34	13.90	13.74	14.01	13.79	14.21
CaO	20.87	21.80	20.75	20.67	20.21	20.35	19.66	20.59	19.23	17.66	17.80	20.54	19.69	20.13	20.32	20.25	19.48	20.23	20.97
MnO	0.33	0.31	0.31	0.37	0.35	0.35	0.34	0.37	0.41	0.36	0.39	0.31	0.36	0.34	0.34	0.34	0.30	0.31	0.34
FeO	9.15	8.74	10.07	10.25	10.40	10.40	10.65	10.17	10.74	11.74	11.24	10.13	9.90	9.71	9.91	9.88	10.62	10.02	8.80
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Na2O	0.40	0.00	0.42	0.37	0.42	0.41	0.36	0.39	0.35	0.39	0.35	0.47	0.40	0.36	0.34	0.37	0.34	0.32	0.35
K2O	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.02	0.02
Total	**99.39**	**99.93**	**99.90**	**100.03**	**99.26**	**100.06**	**99.31**	**99.80**	**99.37**	**98.48**	**98.94**	**98.68**	**98.75**	**99.72**	**99.73**	**99.20**	**99.13**	**99.17**	**99.71**
T																			
Si	1.95	1.95	1.95	1.95	1.94	1.94	1.95	1.94	1.96	1.96	1.96	1.94	1.97	1.96	1.96	1.97	1.95	1.95	1.97
Al IV	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.06	0.04	0.04	0.04	0.06	0.03	0.04	0.04	0.03	0.05	0.05	0.03
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.03	0.04	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.04	0.04	0.02	0.04	0.04	0.04	0.05	0.04	0.04	0.04
Fe3+	0.01	0.00	0.01	0.01	0.03	0.03	0.01	0.03	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.01
Cr3+	0.000	0.000	0.001	0.000	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.78	0.78	0.77	0.77	0.78	0.78	0.79	0.78	0.79	0.81	0.82	0.76	0.78	0.80	0.77	0.77	0.79	0.77	0.79
Fe2+	0.16	0.17	0.17	0.17	0.15	0.15	0.16	0.15	0.15	0.13	0.12	0.16	0.16	0.15	0.17	0.17	0.16	0.17	0.15
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.12	0.11	0.13	0.13	0.14	0.14	0.17	0.13	0.18	0.24	0.24	0.12	0.16	0.16	0.14	0.14	0.18	0.15	0.12
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.84	0.87	0.83	0.83	0.81	0.81	0.79	0.83	0.77	0.72	0.72	0.83	0.80	0.81	0.81	0.82	0.79	0.82	0.84
Na+	0.03	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03
TOTAL M2	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**0.99**	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**0.99**
Wo (%)	44	45	43	43	42	42	41	43	40	37	38	43	42	42	43	43	41	43	44
En (%)	**41**	**40**	**40**	**40**	**40**	**40**	**41**	**40**	**41**	**42**	**43**	**39**	**41**	**42**	**41**	**40**	**41**	**40**	**41**
Fs (%)	15	15	17	17	18	17	18	17	18	20	19	17	17	16	17	17	18	17	15
Q	1.90	1.92	1.90	1.90	1.88	1.89	1.91	1.89	1.90	1.90	1.90	1.88	1.89	1.91	1.90	1.89	1.91	1.90	1.90
J	0.06	0.00	0.06	0.05	0.06	0.06	0.05	0.06	0.05	0.06	0.05	0.07	0.06	0.05	0.05	0.05	0.05	0.05	0.05
Cr (ppm)	0	0	192	24	250	131	0	120	24	0	179	406	0	1	96	1	1	1	193
Ti (ppm)	4485	3693	4062	3753	3412	4210	4162	4135	4007	3307	4333	3750	3991	3479	3186	2937	4216	3686	2530
Mn (pmm)	2539	2433	2384	2829	2702	2711	2639	2845	3186	2787	3008	2412	2771	2598	2664	2664	2295	2369	2648
Mg#	**0.73**	**0.74**	**0.71**	**0.70**	**0.70**	**0.71**	**0.70**	**0.71**	**0.70**	**0.69**	**0.70**	**0.70**	**0.71**	**0.72**	**0.71**	**0.71**	**0.70**	**0.71**	**0.74**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Troct	Troct	Troct	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog	Ol Leucog
DESCRIP	Cpx©	Cpx (B)	Cpx G2 (B)	Cpx©	Cpx (B)	Cpx©	Cpx©	Cpx (B)	Cpx©	Cpx (B)	Cpx (B HoC)	Cpx©	Cpx (B)	Cpx©	Cpx (B)	Cpx©	Cpx (B)	Cpx©	Cpx (B)
SAMPLE	ODV-G-3	ODV-G-3	ODV-G-3	S-4-2	S-4-2	S-4-2	S-4-2	S-4-2	S-4-2	S-4-2	S-4-2	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-26	ODV-G-26
Label	M 206 (3_2)	M 205 (3_1)	M 225 (9_1)	M 394 (3_4)	M 393 (3_3)	M 395 (4_3)	M 398 (5_2)	M 397 (5_1)	M 403 (6_4)	M 402 (6_3)	M 406 (7_3)	326 (1_3)	327 (1_4)	330 (2_1)	331(2_2)	334 (3_1)	335 (3_2)	M 564 (2_2)	M 563 (2_1)
SiO2	52.22	51.98	51.52	51.59	51.70	51.82	51.70	50.98	50.47	51.79	51.56	52.40	52.40	52.98	52.91	52.86	53.05	51.98	51.85
TiO2	0.66	0.50	0.71	0.69	0.67	0.64	0.60	0.56	0.78	0.22	0.73	0.58	0.57	0.62	0.54	0.74	0.56	0.79	0.73
Al2O3	1.85	1.54	2.20	1.77	1.89	1.77	1.90	2.01	1.73	1.28	1.78	2.06	1.95	1.93	1.93	2.00	1.95	2.18	2.30
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00
Cr2O3	0.00	0.05	0.01	0.04	0.00	0.06	0.02	0.04	0.05	0.03	0.00	0.01	0.02	0.04	0.00	0.00	0.00	0.06	0.05
MgO	13.56	13.50	13.62	14.00	13.82	13.98	13.43	13.33	13.13	11.13	14.13	13.95	14.04	13.79	13.89	13.70	14.14	15.16	14.67
CaO	20.84	20.91	20.61	20.28	20.86	20.01	21.08	21.89	20.35	23.42	19.78	20.46	20.45	21.00	20.97	20.77	20.32	19.87	21.73
MnO	0.39	0.35	0.29	0.34	0.38	0.34	0.34	0.28	0.35	0.32	0.30	0.33	0.30	0.26	0.28	0.35	0.23	0.24	0.23
FeO	8.80	10.57	9.56	10.30	9.64	9.89	9.57	9.01	11.44	11.35	10.09	10.13	9.68	9.36	10.05	9.77	10.37	8.72	8.28
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							0.00	0.00
Na2O	0.38	0.37	0.37	0.31	0.30	0.36	0.31	0.28	0.34	0.30	0.30	0.37	0.33	0.34	0.35	0.36	0.33	0.39	0.39
K2O	0.00	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02	0.02	0.01	0.02	0.00	0.01	0.01	0.00	0.00
Total	**98.71**	**99.77**	**98.87**	**99.32**	**99.28**	**98.88**	**98.96**	**98.37**	**98.63**	**99.83**	**98.66**	**100.30**	**99.75**	**100.32**	**100.91**	**100.55**	**100.94**	**99.37**	**100.24**
T																			
Si	1.97	1.95	1.94	1.94	1.94	1.96	1.95	1.93	1.92	1.96	1.95	1.95	1.96	1.96	1.96	1.96	1.96	1.94	1.92
Al IV	0.03	0.05	0.06	0.06	0.06	0.04	0.05	0.07	0.08	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04	0.06	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.05	0.02	0.04	0.02	0.03	0.03	0.04	0.02	0.00	0.02	0.03	0.04	0.04	0.05	0.04	0.05	0.04	0.03	0.02
Fe3+	0.00	0.04	0.01	0.02	0.01	0.00	0.00	0.03	0.06	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.05
Ti4+	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02
Cr3+	0.00	0.00	0.00	0.001	0.000	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.002	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.76	0.75	0.77	0.79	0.77	0.79	0.76	0.75	0.74	0.63	0.80	0.77	0.78	0.76	0.77	0.76	0.78	0.84	0.81
Fe2+	0.17	0.18	0.17	0.15	0.16	0.16	0.19	0.18	0.17	0.32	0.15	0.16	0.16	0.17	0.18	0.18	0.16	0.09	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.11	0.12	0.13	0.15	0.12	0.15	0.11	0.08	0.13	0.02	0.16	0.15	0.14	0.12	0.13	0.13	0.16	0.17	0.10
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.84	0.84	0.83	0.82	0.84	0.81	0.85	0.89	0.83	0.95	0.80	0.82	0.82	0.83	0.83	0.82	0.80	0.79	0.86
Na+	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.03	0.03
TOTAL M2	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**
Wo (%)	44.46	43.37	43.62	42	44	42	44	46	43	49	42	43	43	44	43	44	42	41	45
En (%)	**40.23**	**38.96**	**40.11**	**41**	**40**	**41**	**39**	**39**	**38**	**32**	**41**	**40**	**41**	**40**	**40**	**40**	**41**	**44**	**42**
Fs (%)	15.31	17.67	16.28	17	16	17	16	15	19	19	17	17	16	16	17	17	17	15	14
Q	1.88	1.89	1.89	1.90	1.90	1.91	1.91	1.90	1.88	1.92	1.91	1.90	1.90	1.89	1.91	1.89	1.90	1.89	1.87
J	0.06	0.05	0.05	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
Cr (ppm)	0	358	60	285	0	428	166	250	309	214	0	84	120	265	1	1	1	380	308
Ti (ppm)	3967	3000	4275	4111	4036	3852	3605	3330	4663	1296	4357	3474	3397	3691	3211	4449	3359	4734	4353
Mn (pmm)	3020	2693	2243	2619	2956	2658	2648	2200	2679	2508	2321	2587	2345	1981	2167	2717	1780	1822	1774
Mg#	**0.73**	**0.69**	**0.72**	**0.71**	**0.72**	**0.72**	**0.71**	**0.72**	**0.67**	**0.64**	**0.71**	**0.71**	**0.72**	**0.72**	**0.71**	**0.71**	**0.71**	**0.76**	**0.76**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Cpx (B)	Cpx (B)	Cpx (B)	Cpx G1©	Cpx G2 ©	Cpx G2 (B)	Cpx G3 ©	Cpx ©	Cpx (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc inc Oxd	Cpx intc inc Oxd	Cpx I ©	Cpx I (B)	Cpx II (B)	Cpx I ©	Cpx ©	Cpx (B)	
SAMPLE	ODV-G-26	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-23	ODV-G-23	ODV-G-23	ODV-G-23	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	
Label	M 568 (3_1)	M 572 (4_2)	M 430 (4_2)	M 438 (2_4)	M 440 (2_6)	M 439 (2_5)	M 441 (2_7)	M 446 (5_2)	M 445 (5_1)	1214 [1-1]	1215 [1-2]	1218 [2-1]	1219 [2-2]	320 (1_1)	321(1_2)	323 (2_2)	324 (3_1)	M 449 (1_1)	M 450 (1_2)	
SiO2	51.95	51.43	52.05	51.61	51.65	51.46	51.75	51.69	51.69	52.37	52.48	52.49	52.59	52.18	52.68	52.65	52.71	51.69	51.69	
TiO2	0.65	0.78	0.78	0.96	0.91	0.76	0.80	0.87	0.67	0.75	0.65	0.49	0.63	0.69	0.51	0.60	0.53	0.53	0.58	
Al2O3	2.29	2.41	2.46	2.35	2.50	2.49	2.40	2.41	2.37	1.70	1.67	1.79	1.79	2.22	1.80	1.89	1.84	1.81	1.88	
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									0.00	0.00	
Cr2O3	0.03	0.10	0.01	0.02	0.02	0.00	0.05	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
MgO	15.07	14.62	14.36	14.44	15.06	14.52	14.80	14.22	14.76	13.52	13.88	13.32	13.21	13.67	13.86	14.00	13.90	13.74	13.89	
CaO	21.75	21.82	22.64	21.66	20.50	21.48	20.75	21.87	20.89	19.57	17.94	19.92	19.89	20.90	21.21	20.96	20.98	21.52	20.61	
MnO	0.23	0.22	0.20	0.25	0.21	0.24	0.27	0.24	0.24	0.40	0.42	0.32	0.35	0.37	0.30	0.32	0.29	0.35	0.37	
FeO	7.24	8.17	7.48	7.99	9.00	8.05	8.70	7.93	8.42	10.70	12.45	11.14	11.37	9.48	9.02	8.81	9.02	8.97	9.52	
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00									0.00	0.00	
Na2O	0.33	0.41	0.34	0.39	0.38	0.37	0.33	0.43	0.36	0.32	0.35	0.26	0.31	0.39	0.01	0.00	0.01	0.38	0.36	
K2O	0.00	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.01	0.01	
Total	**99.55**	**99.97**	**100.32**	**99.66**	**100.23**	**99.37**	**99.86**	**99.66**	**99.41**	**99.36**	**99.84**	**99.73**	**100.13**	**99.90**	**99.38**	**99.22**	**99.27**	**98.98**	**98.91**	
T																				
Si	1.93	1.91	1.92	1.92	1.91	1.92	1.92	1.92	1.93	1.97	1.97	1.97	1.97	1.95	1.97	1.97	1.97	1.95	1.95	
Al IV	0.07	0.09	0.08	0.08	0.09	0.08	0.08	0.08	0.07	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.05	0.05	
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	
M1																				
Al VI	0.03	0.01	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.03	0.03	
Fe3+	0.03	0.07	0.03	0.03	0.05	0.04	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	
Ti4+	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.02	
Cr3+	0.001	0.003	0.000	0.001	0.000	0.000	0.002	0.000	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mg2+	0.83	0.81	0.79	0.80	0.83	0.81	0.82	0.79	0.82	0.76	0.78	0.75	0.74	0.76	0.77	0.78	0.77	0.77	0.78	
Fe2+	0.09	0.09	0.13	0.12	0.08	0.10	0.10	0.13	0.10	0.18	0.16	0.19	0.20	0.17	0.16	0.15	0.16	0.16	0.16	
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	
M2																				
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fe2+	0.10	0.10	0.07	0.10	0.15	0.11	0.14	0.09	0.13	0.16	0.23	0.16	0.16	0.12	0.12	0.12	0.12	0.09	0.13	
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Ca2+	0.86	0.87	0.90	0.86	0.81	0.86	0.83	0.87	0.83	0.79	0.72	0.80	0.80	0.84	0.85	0.84	0.84	0.87	0.83	
Na+	0.02	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.00	0.00	0.00	0.03	0.03	
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.98**	**0.99**	**0.99**	**0.99**	**1.00**	**0.98**	**0.97**	**0.97**	**1.00**	**1.00**	
Wo (%)	45	45	47	45	42	45	43	46	43	41.59	37.93	42.02	41.95	43.90	44.40	44.06	44.10	44.91	43.26	
En (%)	**43**	**42**	**41**	**42**	**43**	**42**	**43**	**41**	**43**	**39.98**	**40.83**	**39.10**	**38.76**	**39.95**	**40.37**	**40.95**	**40.63**	**39.90**	**40.54**	
Fs (%)	12	13	12	13	15	13	14	13	14	18.43	21.24	18.88	19.30	16.15	15.23	14.99	15.27	15.19	16.20	
Q	1.89	1.86	1.89	1.88	1.87	1.87	1.88	1.88	1.88	1.88	1.89	1.90	1.89	1.89	1.90	1.90	1.90	1.89	1.90	
J	0.05	0.06	0.05	0.06	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.04	0.04	0.06	0.00	0.00	0.00	0.06	0.05	
Cr (ppm)	197	688	86	123	110	0	369	0	0	227	1	1	1	1	1	1	1	0	159	
Ti (ppm)	3885	4702	4690	5780	5427	4546	4813	5207	4042	4478	3912	2967	3761	4146	3045	3574	3182	3174	3470	
Mn (pmm)	1780	1742	1552	1909	1633	1876	2089	1868	1840	3131	3250	2453	2709	2843	2307	2450	2226	2711	2835	
Mg#	**0.79**	**0.76**	**0.77**	**0.76**	**0.75**	**0.76**	**0.75**	**0.76**	**0.76**	**0.69**	**0.67**	**0.68**	**0.67**	**0.72**	**0.73**	**0.74**	**0.73**	**0.73**	**0.72**	

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Cpx G2 ©	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx jto HoC intc©	Cpx I ©	Cpx I (B)	Cpx II ©	Cpx II (B)	Cpx I ©	Cpx I (B)	Cpx I ©	Cpx I (B)	Cpx II ©	Cpx II (B)	
SAMPLE	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	
Label	M 454 (1_6)	M 455 (2_1)	M 456 (2_2)	M 499 (1_3)	M 500 (1_4)	M 504 (2_3)	M 503 (2_2)	M 505 (2_4)	M 515 (6_3)	369 (1_1)	370 (1_2)	373 (2_3)	374 (2_4)	353 (1_1)	354 (1_2)	357 (2_1)	358 (2_2)	361(3_1)	362 (3_2)	
SiO2	52.04	50.67	51.39	52.17	52.33	52.43	50.11	51.68	51.15	51.93	52.14	52.38	52.39	51.95	52.11	52.29	53.03	52.33	52.60	
TiO2	0.66	0.59	0.67	0.46	0.37	0.41	0.37	0.57	0.34	0.85	0.86	0.91	0.71	0.83	0.69	0.83	0.77	0.85	0.80	
Al2O3	1.90	3.67	1.80	1.62	1.65	1.67	2.05	1.69	1.77	2.48	2.45	2.53	2.30	2.38	2.30	2.45	2.37	2.30	2.29	
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
Cr2O3	0.00	0.01	0.00	0.00	0.02	0.00	0.02	0.00	0.03	0.02	0.05	0.06	0.00	0.05	0.02	0.05	0.00	0.00	0.09	
MgO	13.64	15.19	13.80	13.42	13.28	13.73	12.56	13.26	13.04	14.44	14.57	14.90	14.82	14.86	14.83	15.04	15.15	14.93	15.29	
CaO	21.74	18.10	20.92	21.38	21.62	21.79	21.29	21.20	21.51	20.68	20.66	20.66	21.12	20.32	20.69	19.52	20.31	21.07	20.57	
MnO	0.30	0.25	0.34	0.30	0.31	0.26	0.26	0.25	0.32	0.23	0.24	0.18	0.25	0.24	0.22	0.30	0.22	0.27	0.29	
FeO	9.29	10.77	9.64	10.17	9.58	9.61	11.39	9.62	10.17	8.11	8.36	8.34	8.06	9.03	8.63	9.29	8.80	8.09	8.40	
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
Na2O	0.34	0.28	0.40	0.33	0.31	0.32	0.35	0.27	0.33	0.38	0.32	0.43	0.35	0.38	0.34	0.41	0.39	0.38	0.31	
K2O	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	
Total	99.91	99.53	98.98	99.84	99.45	100.22	98.40	98.53	98.65	99.09	99.65	100.40	99.99	100.04	99.84	100.19	101.04	100.22	100.64	
T																				
Si	1.94	1.89	1.94	1.96	1.97	1.95	1.91	1.96	1.94	1.94	1.94	1.93	1.94	1.93	1.94	1.94	1.94	1.93	1.94	
Al IV	0.06	0.11	0.06	0.04	0.03	0.05	0.09	0.04	0.06	0.06	0.06	0.07	0.06	0.07	0.06	0.06	0.06	0.07	0.06	
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
M1																				
Al VI	0.03	0.05	0.02	0.03	0.04	0.03	0.00	0.04	0.02	0.05	0.05	0.04	0.04	0.03	0.04	0.04	0.05	0.03	0.04	
Fe3+	0.02	0.05	0.04	0.02	0.00	0.02	0.09	0.00	0.05	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.01	0.00	
Ti4+	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
Cr3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.001	0.002	0.002	0.000	0.002	0.001	0.002	0.000	0.000	0.003	
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mg2+	0.76	0.84	0.78	0.75	0.74	0.76	0.71	0.75	0.74	0.80	0.81	0.82	0.82	0.82	0.82	0.83	0.83	0.82	0.84	
Fe2+	0.18	0.04	0.15	0.20	0.21	0.18	0.18	0.20	0.19	0.12	0.12	0.11	0.12	0.10	0.11	0.10	0.10	0.11	0.10	
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
M2																				
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fe2+	0.10	0.25	0.11	0.11	0.10	0.10	0.09	0.11	0.09	0.13	0.14	0.15	0.13	0.16	0.15	0.19	0.17	0.13	0.16	
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Ca2+	0.87	0.72	0.84	0.86	0.87	0.87	0.87	0.86	0.87	0.83	0.82	0.82	0.84	0.81	0.82	0.77	0.80	0.83	0.81	
Na+	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.03	0.03	0.02	
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Wo (%)	45.10	37.84	43.65	44.33	45.21	44.84	44.47	44.77	44.97	44	43	43	44	42	43	41	42	44	42	
En (%)	39.36	44.18	40.07	38.71	38.64	39.31	36.52	38.97	37.92	42	43	43	43	43	43	44	44	43	44	
Fs (%)	15.54	17.98	16.27	16.96	16.15	15.86	19.01	16.27	17.11	14	14	14	13	15	14	16	15	13	14	
Q	1.90	1.85	1.89	1.91	1.91	1.91	1.86	1.92	1.89	1.89	1.89	1.89	1.90	1.89	1.90	1.89	1.90	1.89	1.90	
J	0.05	0.04	0.06	0.05	0.04	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05	0.05	0.05	0.06	0.06	0.05	0.04	
Cr (ppm)	0	36	0	0	122	25	122	0	172	157	350	411	1	362	169	374	1	1	638	
Ti (ppm)	3957	3565	4014	2765	2236	2438	2210	3395	2039	5088	5145	5440	4259	4948	4164	4984	4602	5068	4773	
Mn (pmm)	2358	1932	2670	2319	2411	1996	2007	1900	2472	1748	1829	1365	1915	1842	1732	2299	1701	2114	2276	
Mg#	0.72	0.72	0.72	0.70	0.71	0.72	0.66	0.71	0.70	0.76	0.76	0.76	0.77	0.75	0.75	0.74	0.75	0.77	0.76	

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP	Int	Int	Upp	Upp	Upp	Upp													
UNIT	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Troct	Troct	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Leucog	Leucog	Leucog	Leucog	Ol_Opx Gb	Ol_Opx Gb
DESCRIP	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx (C)	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx ©	Cpx (B)	Cpx (C)	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx ©
SAMPLE	ODV-G-37	ODV-G-37	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-PO	ODV-PO	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-32	ODV-G-32
Label	366 (4_1)	367 (4_2)	338 (2_1)	339 (2_2)	344 (3_5)	345 (3_6)	1231[4-1]	1232 [4-2]	402 (2_1)	403 (2_2)	407 (3_3)	409 (1_4)	410 (1_5)	M490 (3_1)	M491 (3_2)	M495 (4_1)	M496 (4_2)	M645 (1_5)	M646 (2_1)
SiO2	52.05	52.00	52.10	52.53	51.99	51.94	51.99	52.14	51.79	51.50	51.25	52.56	52.52	51.49	51.55	50.35	50.76	50.64	51.48
TiO2	0.86	0.71	0.54	0.58	0.64	0.60	0.90	0.88	0.88	0.93	0.90	0.69	0.53	0.84	0.80	1.31	1.00	1.15	0.95
Al2O3	2.27	2.40	2.01	2.00	1.88	2.03	2.76	2.86	2.63	2.77	2.82	2.50	2.12	2.55	2.67	3.46	2.96	2.48	2.30
V2O3														0.00	0.00	0.00	0.00	0.00	0.00
Cr2O3	0.00	0.00	0.05	0.03	0.00	0.04	0.10	0.15	0.00	0.05	0.00	0.00	0.00	0.21	0.10	0.43	0.19	0.16	0.13
MgO	15.42	14.51	14.10	14.42	14.14	13.82	15.23	15.13	15.12	14.98	14.62	15.03	15.28	14.40	14.43	14.43	14.49	15.37	15.04
CaO	19.18	20.92	20.24	20.82	19.62	19.90	20.56	21.21	20.73	20.61	20.40	21.67	21.35	22.19	21.67	21.25	21.76	20.44	21.35
MnO	0.24	0.23	0.30	0.30	0.36	0.30	0.20	0.20	0.19	0.20	0.84	0.26	0.17	0.23	0.20	0.18	0.25	0.18	0.20
FeO	9.41	7.95	9.22	9.35	10.21	9.85	6.94	6.70	7.96	7.98	8.12	7.43	7.71	6.92	6.80	7.60	7.27	8.61	7.76
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO														0.00	0.00	0.00	0.00	0.00	0.00
Na2O	0.37	0.35	0.34	0.30	0.37	0.02	0.46	0.37	0.37	0.36	0.00	0.38	0.37	0.46	0.43	0.48	0.45	0.39	0.33
K2O	0.01	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Total	99.80	99.08	98.90	100.34	99.20	98.50	99.14	99.64	99.68	99.38	99.01	100.50	100.05	99.30	98.64	99.50	99.13	99.42	99.53
T																			
Si	1.93	1.94	1.96	1.95	1.95	1.96	1.93	1.93	1.92	1.92	1.92	1.93	1.94	1.92	1.93	1.87	1.89	1.88	1.91
Al IV	0.07	0.06	0.04	0.05	0.05	0.04	0.07	0.07	0.08	0.08	0.08	0.07	0.06	0.08	0.07	0.13	0.11	0.11	0.09
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.03	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.04	0.04	0.05	0.04	0.03	0.03	0.05	0.02	0.02	0.00	0.01
Fe3+	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.03	0.03	0.00	0.05	0.06	0.08	0.04
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.01	0.02	0.02	0.04	0.03	0.03	0.03
Cr3+	0.000	0.000	0.001	0.001	0.000	0.001	0.003	0.004	0.000	0.001	0.000	0.000	0.000	0.006	0.003	0.013	0.005	0.005	0.004
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.85	0.81	0.79	0.80	0.79	0.78	0.84	0.83	0.84	0.83	0.82	0.82	0.84	0.80	0.81	0.80	0.81	0.85	0.83
Fe2+	0.08	0.12	0.15	0.15	0.15	0.15	0.08	0.08	0.08	0.09	0.11	0.10	0.09	0.11	0.12	0.07	0.08	0.03	0.08
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.20	0.13	0.14	0.14	0.17	0.16	0.14	0.12	0.14	0.15	0.14	0.11	0.12	0.07	0.09	0.11	0.09	0.16	0.12
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.76	0.84	0.82	0.83	0.79	0.81	0.82	0.84	0.82	0.82	0.82	0.85	0.84	0.89	0.87	0.85	0.87	0.81	0.85
Na+	0.03	0.03	0.03	0.02	0.03	0.00	0.03	0.03	0.03	0.03	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02
TOTAL M2	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.01	1.00
Wo (%)	40	44	43	43	41	42	43	45	43	43	43	45	44	46	46	45	46	42	44
En (%)	45	43	41	41	41	41	45	44	44	44	43	43	44	42	43	42	42	44	43
Fs (%)	16	13	16	16	17	17	12	11	13	13	15	12	13	12	12	13	12	14	13
Q	1.90	1.89	1.90	1.91	1.90	1.89	1.88	1.88	1.88	1.88	1.89	1.89	1.89	1.87	1.88	1.83	1.85	1.86	1.89
J	0.05	0.05	0.05	0.04	0.05	0.00	0.07	0.05	0.05	0.05	0.00	0.05	0.05	0.07	0.06	0.07	0.07	0.06	0.05
Cr (ppm)	1	1	337	205	1	241	716	1037	1	328	1	1	1	1442	690	2937	1268	1078	872
Ti (ppm)	5158	4261	3218	3462	3863	3610	5368	5261	5289	5596	5400	4152	3147	5028	4813	7868	5982	6871	5689
Mn (pmm)	1876	1769	2301	2331	2764	2339	1576	1577	1493	1574	6480	1976	1341	1780	1511	1374	1923	1427	1563
Mg#	0.75	0.76	0.73	0.73	0.71	0.71	0.80	0.80	0.77	0.77	0.76	0.78	0.78	0.79	0.79	0.77	0.78	0.76	0.78

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP																							
UNIT	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Ol_Opx Gb	Ol_Opx Gb	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog									
DESCRIP	Cpx (B)	Cpx ©	Cpx (B)	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (C)	Cpx cum (C)
SAMPLE	ODV-G-32	ODV-G-32	ODV-G-33	ODV-G-33	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D2	ODV-D2	ODV-D4	ODV-D4	ODV-D4	ODV-D4	ODV-D4
Label	M647 (2_2)	M652 (3_1)	M634 (1_4)	M638 (2_1)	M481 (2_1)	M482 (2_2)	M485 (3_1)	M486 (3_2)	381(1_3)	382 (1_4)	385 (2_1)	386 (2_2)	393 (3_3)	394 (3_4)	1187 [5-1]	1188 [5-2]	1196 [6-3]	1197 [6-4]	1201[4-1]	1202 [4-2]	1210 [7-1]	1211[7-2]	1205 [5-1]
SiO2	52.03	51.02	51.35	51.58	51.52	50.85	51.19	51.25	51.94	52.08	52.14	51.49	51.88	51.88	51.97	52.29	52.20	51.94	51.89	52.08	53.16	53.08	52.58
TiO2	0.48	1.05	0.82	0.67	0.63	0.99	1.14	0.98	1.04	0.70	0.89	0.96	0.81	0.70	0.91	1.08	0.95	1.02	0.95	1.01	0.88	0.77	0.87
Al2O3	2.21	2.80	2.94	2.20	2.43	2.88	3.19	2.94	2.99	3.05	2.76	2.93	2.77	2.79	2.92	3.16	2.95	3.01	2.82	2.65	2.54	2.64	2.63
V2O3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00															
Cr2O3	0.09	0.09	0.10	0.10	0.13	0.16	0.35	0.24	0.11	0.10	0.09	0.09	0.10	0.09	0.27	0.26	0.23	0.28	0.02	0.02	0.00	0.04	0.06
MgO	15.09	14.76	14.67	14.90	14.87	14.41	14.32	13.70	15.33	14.78	15.21	14.70	15.07	14.72	14.99	15.41	14.68	14.78	14.94	14.96	15.52	14.86	14.82
CaO	21.95	21.89	21.56	21.72	21.96	22.37	21.83	21.82	20.23	22.02	20.54	21.16	20.79	21.78	20.37	20.28	21.34	20.59	19.92	20.05	19.52	21.13	20.78
MnO	0.17	0.19	0.20	0.19	0.24	0.21	0.14	0.21	0.20	0.18	0.17	0.18	0.20	0.19	0.18	0.20	0.21	0.16	0.20	0.23	0.28	0.19	0.31
FeO	7.06	7.36	7.34	7.35	6.68	6.89	6.67	6.82	7.63	6.66	7.41	7.18	7.54	6.67	7.39	7.38	6.86	6.94	7.79	8.45	8.40	7.00	7.52
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01
ZnO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00															
Na2O	0.39	0.42	0.43	0.41	0.46	0.44	0.50	0.48	0.41	0.39	0.46	0.41	0.41	0.40	0.54	0.54	0.00	0.49	0.45	0.43	0.41	0.38	0.42
K2O	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01
Total	**99.47**	**99.59**	**99.40**	**99.12**	**98.93**	**99.20**	**99.34**	**98.43**	**99.90**	**99.96**	**99.68**	**99.09**	**99.56**	**99.22**	**99.52**	**100.60**	**99.43**	**99.23**	**98.98**	**99.88**	**100.72**	**100.08**	**100.01**
T																							
Si	1.93	1.89	1.91	1.92	1.92	1.89	1.90	1.93	1.92	1.92	1.93	1.92	1.92	1.93	1.93	1.92	1.93	1.93	1.93	1.93	1.95	1.95	1.94
Al IV	0.07	0.11	0.09	0.08	0.08	0.11	0.10	0.07	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.08	0.07	0.07	0.07	0.07	0.05	0.05	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																							
Al VI	0.02	0.02	0.04	0.02	0.03	0.02	0.04	0.06	0.05	0.05	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.06	0.07	0.06
Fe3+	0.05	0.06	0.04	0.05	0.05	0.06	0.02	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.01	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
Cr3+	0.003	0.003	0.003	0.003	0.004	0.005	0.010	0.007	0.003	0.003	0.003	0.003	0.003	0.003	0.008	0.008	0.007	0.008	0.001	0.001	0.000	0.001	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.82	0.81	0.83	0.83	0.80	0.79	0.77	0.84	0.81	0.84	0.82	0.83	0.82	0.83	0.84	0.81	0.82	0.83	0.83	0.85	0.81	0.82
Fe2+	0.08	0.08	0.09	0.08	0.08	0.09	0.10	0.14	0.07	0.10	0.08	0.10	0.08	0.10	0.08	0.07	0.09	0.09	0.08	0.10	0.07	0.10	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																							
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.09	0.10	0.10	0.08	0.07	0.09	0.07	0.16	0.10	0.15	0.12	0.14	0.10	0.15	0.16	0.12	0.13	0.16	0.16	0.19	0.12	0.13
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.87	0.87	0.86	0.87	0.88	0.89	0.87	0.88	0.80	0.87	0.81	0.85	0.83	0.87	0.81	0.80	0.85	0.82	0.80	0.80	0.77	0.83	0.82
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.00	0.04	0.03	0.03	0.03	0.03	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.97**	**0.99**	**0.99**	**1.00**	**0.99**	**0.98**	**0.99**
Wo (%)	45	45	45	45	46	47	46	47	42	46	43	45	43	46	43	43	45	44	42	42	41	45	44
En (%)	**43**	**43**	**43**	**43**	**43**	**42**	**42**	**41**	**45**	**43**	**44**	**43**	**44**	**43**	**44**	**45**	**43**	**44**	**44**	**44**	**45**	**44**	**43**
Fs (%)	12	12	12	12	11	12	11	12	13	11	12	12	13	11	13	12	12	12	13	14	14	12	13
Q	1.88	1.85	1.86	1.88	1.86	1.85	1.86	1.86	1.88	1.88	1.88	1.88	1.88	1.88	1.87	1.86	1.87	1.85	1.87	1.89	1.87	1.86	1.87
J	0.06	0.06	0.06	0.06	0.07	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.06	0.06	0.08	0.08	0.00	0.07	0.07	0.06	0.06	0.05	0.06
Cr (ppm)	616	603	677	701	913	1073	2380	1663	736	666	629	618	692	645	1823	1785	1600	1901	127	166	1	255	409
Ti (ppm)	2896	6316	4930	4042	3805	5916	6822	5875	6262	4214	5343	5733	4863	4198	5484	6469	5707	6124	5681	6041	5285	4630	5236
Mn (pmm)	1322	1492	1519	1492	1826	1620	1097	1591	1585	1415	1325	1387	1533	1485	1369	1560	1633	1254	1540	1786	2163	1471	2363
Mg#	**0.79**	**0.78**	**0.78**	**0.78**	**0.80**	**0.79**	**0.79**	**0.78**	**0.78**	**0.80**	**0.79**	**0.79**	**0.78**	**0.80**	**0.78**	**0.79**	**0.79**	**0.79**	**0.77**	**0.76**	**0.77**	**0.79**	**0.78**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF																			
DESCRIP	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx (C)	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx poiq (C)	Cpx poiq (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)
SAMPLE	CVD-19A	CVD-19A	CVD-19A	CVD-19A	CVD-19A	CVD-19A	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17D	CVD-17D	CVD-17D	CVD-17D	CVD-16A	CVD-16A	CVD-16A	CVD-16A
Label	1047 [1-4]	1048 [1-5]	1053 [2-3]	1054 [2-4]	1057 [3-1]	1058 [3-2]	945 [1-5]	946 [1-6]	947 [1-7]	953 [2-3]	954 [2-4]	1006 [2-6]	1007 [2-7]	1012 [2-9]	1013 [2-10]	986 [1-3]	987 [1-4]	999 [3-1]	1000 [3-2]
SiO2	52.43	52.89	52.07	52.11	52.49	52.04	52.43	52.58	52.37	52.99	52.48	52.60	53.30	51.50	52.67	54.12	54.94	52.57	52.49
TiO2	0.77	0.58	0.82	0.81	0.43	0.70	1.04	0.83	0.77	0.79	0.99	0.97	0.50	1.07	0.55	0.35	0.15	1.15	0.95
Al2O3	2.65	2.38	2.66	2.87	2.08	2.83	2.58	2.54	2.63	2.41	2.64	2.61	2.23	3.38	2.46	1.71	0.82	3.05	2.83
V2O3																			
Cr2O3	0.04	0.12	0.07	0.04	0.10	0.13	0.03	0.05	0.06	0.00	0.02	0.16	0.06	0.35	0.23	0.05	0.08	0.11	0.09
MgO	14.67	15.10	14.65	14.73	14.98	14.86	15.54	15.12	15.13	15.27	15.45	15.55	15.30	14.40	15.18	15.70	15.46	14.81	14.76
CaO	20.85	21.64	20.98	21.41	21.21	20.96	19.94	20.74	20.62	20.50	19.84	19.29	21.65	21.07	21.36	21.82	22.93	21.20	21.22
MnO	0.17	0.18	0.21	0.19	0.17	0.19	0.23	0.24	0.29	0.23	0.20	0.30	0.24	0.22	0.20	0.21	0.19	0.18	0.23
FeO	7.47	6.69	7.63	7.30	7.05	7.28	7.92	7.56	7.43	7.61	7.77	7.44	6.45	6.68	6.35	6.08	5.56	7.52	7.15
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.42	0.40	0.42	0.43	0.40	0.36	0.41	0.44	0.41	0.48	0.49	0.43	0.42	0.58	0.50	0.28	0.19	0.42	0.42
K2O	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Total	**99.46**	**99.97**	**99.51**	**99.89**	**98.90**	**99.35**	**100.11**	**100.10**	**99.72**	**100.29**	**99.88**	**99.35**	**100.16**	**99.25**	**99.50**	**100.31**	**100.34**	**101.01**	**100.13**
T																			
Si	1.94	1.95	1.94	1.93	1.96	1.93	1.93	1.94	1.94	1.95	1.94	1.95	1.96	1.91	1.95	1.98	2.01	1.92	1.93
Al IV	0.06	0.05	0.06	0.07	0.04	0.07	0.07	0.06	0.06	0.05	0.06	0.05	0.04	0.09	0.05	0.02	-0.01	0.08	0.07
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.06	0.05	0.05	0.05	0.05	0.06	0.04	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.05	0.05	0.04	0.05	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.02	0.02	0.02	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.03	0.03	0.01	0.03	0.02	0.01	0.00	0.03	0.03
Cr3+	0.001	0.003	0.002	0.001	0.003	0.004	0.001	0.001	0.002	0.000	0.001	0.005	0.002	0.010	0.007	0.001	0.002	0.003	0.003
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.81	0.83	0.81	0.81	0.83	0.82	0.85	0.83	0.83	0.84	0.85	0.86	0.84	0.80	0.84	0.86	0.84	0.81	0.81
Fe2+	0.11	0.10	0.11	0.11	0.10	0.10	0.07	0.09	0.09	0.09	0.07	0.05	0.09	0.10	0.09	0.08	0.11	0.10	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.13	0.11	0.13	0.11	0.12	0.13	0.17	0.14	0.14	0.15	0.17	0.18	0.11	0.11	0.11	0.10	0.06	0.13	0.12
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.83	0.85	0.84	0.85	0.85	0.83	0.79	0.82	0.82	0.81	0.78	0.76	0.85	0.84	0.85	0.85	0.90	0.83	0.84
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.01	0.03	0.03
TOTAL M2	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**0.98**	**0.99**	**1.00**	**1.00**	**0.98**	**0.98**	**0.99**	**0.99**
Wo (%)	44	45	44	45	44	44	42	43	43	43	42	41	45	45	45	45	47	44	45
En (%)	**43**	**44**	**43**	**43**	**44**	**44**	**45**	**44**	**44**	**44**	**45**	**46**	**44**	**43**	**44**	**45**	**44**	**43**	**43**
Fs (%)	13	11	13	12	12	12	13	13	13	13	13	13	11	12	11	10	9	13	12
Q	1.87	1.89	1.88	1.88	1.90	1.88	1.89	1.88	1.88	1.88	1.87	1.85	1.89	1.84	1.88	1.90	1.91	1.87	1.87
J	0.06	0.06	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.07	0.07	0.06	0.06	0.08	0.07	0.04	0.03	0.06	0.06
Cr (ppm)	281	794	510	268	677	881	216	344	382	1	153	1119	409	2428	1582	320	513	768	602
Ti (ppm)	4625	3478	4886	4840	2596	4167	6205	4993	4630	4737	5925	5838	2999	6442	3299	2099	908	6891	5669
Mn (pmm)	1282	1420	1619	1485	1337	1461	1769	1864	2269	1807	1581	2352	1822	1685	1537	1620	1509	1420	1770
Mg#	**0.78**	**0.80**	**0.77**	**0.78**	**0.79**	**0.78**	**0.78**	**0.78**	**0.78**	**0.78**	**0.78**	**0.79**	**0.81**	**0.79**	**0.81**	**0.82**	**0.83**	**0.78**	**0.79**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low Ol Leucog II	Low Ol Leucog II	Low Ol Leucog II	Low Ol Leucog II	Low Ol Leucog II	Upp Px Gb II	Upp Px Gb II	Upp Px Gb II	Upp Px Gb II	Upp Px Gb II							Upp Px Gb II	Upp Px Gb II	Upp Px Gb II
CLASIF						Ol Gbnor	Ol Gbnor	Ol Gbnor	Ol Gbnor	Ol Gbnor	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss			
DESCRIP	Cpx cum (C)	Cpx cum (C)	Cpx cum (BC)	Cpx intc (C)	Cpx intc (B)	Cpx (C)	Cpx (B)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx G1 (B)	Cpx Ural G2 (B)	Cpx ©	Cpx G1©	Cpx G2 ©	Cpx G3 ©	Cpx (C)	Cpx (B)	Cpx (C)
SAMPLE	CVD-16B	CVD-15	CVD-15	CVD-15	CVD-15	CVD-12B	CVD-12B	CVD-12B	CVD-12B	CVD-12B	CV-31	CV-31	CV-31	CV-31	CV-31	CV-31	CVD-8	CVD-8	CVD-8
Label	1070 [1-4]	1038 [5-3]	1039 [5-4]	1040 [6-1]	1041 [6-2]	824 (1-3)	825 (1-4)	847 (2-2)	848 (3-1)	849 (3-2)	M516 (2_1)	M517 (2_2)	M522 (1_1)	M520 (2_4)	M527 (2_3)	M526 (2_2)	809 (1-6)	810 (1-7)	816 (2-4)
SiO2	52.92	51.90	51.35	51.90	52.82	52.35	52.48	54.01	52.46	52.64	50.80	51.31	51.24	51.59	51.59	51.19	51.78	50.95	52.15
TiO2	0.89	0.95	0.80	1.03	0.55	0.83	0.71	0.18	0.84	0.78	0.43	0.95	1.31	0.77	0.96	0.96	0.90	1.04	1.03
Al2O3	2.42	2.53	2.66	2.90	2.17	2.91	1.35	1.59	2.53	2.77	2.57	3.21	3.14	2.78	2.96	3.02	2.62	2.83	2.54
V2O3											0.00	0.00	0.00	0.00	0.00	0.00			
Cr2O3	0.09	0.12	0.07	0.09	0.00	0.12	0.07	0.05	0.13	0.03	0.20	0.22	0.25	0.28	0.23	0.26	0.02	0.05	0.03
MgO	15.55	14.81	15.13	14.81	15.28	15.64	16.03	15.86	15.73	14.98	14.83	14.53	14.39	14.56	14.49	14.64	15.46	15.24	15.84
CaO	21.23	20.17	20.40	20.23	21.14	21.11	21.33	22.72	20.89	22.07	21.94	22.21	21.59	22.13	22.79	22.00	20.95	21.98	19.98
MnO	0.12	0.15	0.21	0.18	0.23	0.16	0.14	0.14	0.19	0.13	0.22	0.19	0.16	0.19	0.21	0.12	0.14	0.16	0.23
FeO	7.32	7.62	8.36	7.64	7.63	6.55	6.28	6.32	6.89	6.72	7.07	6.75	6.54	5.99	6.81	6.52	6.59	6.20	8.03
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO											0.00	0.00	0.00	0.00	0.00	0.00			
Na2O	0.44	0.36	0.39	0.44	0.38	0.38	0.48	0.37	0.41	0.41	0.36	0.44	0.50	0.46	0.46	0.47	0.36	0.44	0.42
K2O	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.03	0.01
Total	100.98	98.61	99.37	99.24	100.19	100.04	98.86	101.24	100.07	100.52	98.41	99.82	99.13	98.76	100.51	99.18	98.83	98.90	100.24
T																			
Si	1.93	1.94	1.91	1.93	1.95	1.93	1.95	1.96	1.93	1.93	1.90	1.90	1.91	1.93	1.90	1.90	1.93	1.89	1.92
Al IV	0.07	0.06	0.09	0.07	0.05	0.07	0.05	0.04	0.07	0.07	0.10	0.10	0.09	0.07	0.10	0.10	0.07	0.11	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.04	0.05	0.03	0.06	0.04	0.05	0.01	0.03	0.04	0.05	0.02	0.04	0.05	0.05	0.03	0.04	0.04	0.02	0.03
Fe3+	0.01	0.00	0.04	0.00	0.01	0.00	0.04	0.02	0.01	0.00	0.08	0.04	0.00	0.01	0.05	0.03	0.00	0.06	0.02
Ti4+	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.00	0.02	0.02	0.01	0.03	0.04	0.02	0.03	0.03	0.03	0.03	0.03
Cr3+	0.002	0.003	0.002	0.003	0.000	0.003	0.002	0.001	0.004	0.001	0.006	0.006	0.007	0.008	0.007	0.008	0.001	0.001	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.85	0.83	0.84	0.82	0.84	0.86	0.89	0.86	0.86	0.82	0.83	0.80	0.80	0.81	0.79	0.81	0.86	0.84	0.87
Fe2+	0.08	0.09	0.07	0.09	0.10	0.06	0.05	0.08	0.06	0.10	0.06	0.09	0.11	0.10	0.10	0.08	0.07	0.05	0.05
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.13	0.15	0.15	0.15	0.13	0.14	0.11	0.09	0.14	0.10	0.09	0.08	0.09	0.07	0.06	0.08	0.13	0.09	0.17
Mn2+	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.01
Ca2+	0.83	0.81	0.81	0.81	0.83	0.83	0.85	0.88	0.82	0.87	0.88	0.88	0.86	0.88	0.90	0.88	0.84	0.88	0.79
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03
TOTAL M2	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	44	43	42	43	44	44	44	46	43	46	45	46	46	47	47	46	44	46	41
En (%)	44	44	44	44	44	45	46	44	45	43	43	42	43	43	42	43	45	44	45
Fs (%)	12	13	14	13	13	11	10	10	11	11	12	11	11	10	11	11	11	10	13
Q	1.89	1.87	1.87	1.86	1.90	1.89	1.90	1.91	1.89	1.89	1.85	1.86	1.86	1.87	1.85	1.86	1.90	1.85	1.88
J	0.06	0.05	0.06	0.06	0.05	0.05	0.07	0.05	0.06	0.06	0.05	0.06	0.07	0.07	0.07	0.07	0.05	0.06	0.06
Cr (ppm)	587	803	496	649	1	798	467	309	883	172	1366	1516	1739	1940	1547	1801	160	345	208
Ti (ppm)	5348	5669	4809	6196	3298	4957	4270	1083	5047	4681	2592	5711	7832	4641	5736	5773	5382	6226	6166
Mn (pmm)	909	1168	1593	1422	1770	1242	1053	1120	1483	1000	1713	1502	1214	1485	1625	927	1095	1276	1755
Mg#	0.79	0.78	0.76	0.78	0.78	0.81	0.82	0.82	0.80	0.80	0.79	0.79	0.80	0.81	0.79	0.80	0.81	0.81	0.78

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF		Px Porh Ol Gb	Px Porh Ol Gb	Px Porh Ol Gb	Px Porh Ol Gb					Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx I (C)	Cpx I(B)	Cpx II (C)	Cpx I (C)	Cpx I (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx microbelb	Cpx (C)
SAMPLE	CVD-8	CVD-6A1	CVD-6A1	CVD-6A1	CVD-6A1	CVD-4A	CVD-4A	CVD-4A	CVD-4A	CVD-2A	CVD-2A	CVD-2A	CVD-2A	CVD-2A	CVD-2C	CVD-2C	CVD-2C	CVD-2D	CVD-2D
Label	817 (2-5)	798 [1-7]	799 [1-8]	802 [3-1]	803 [3-2]	830 (1-5)	831 (1-6)	836 (2-1)	837 (2-2)	861 (1-4)	862 (1-5)	863 (1-6)	870 (2-5)	871 (2-6)	901 [3-3]	902 [3-4]	908 [4-4]	877 (1-3)	884 (1-10)
SiO2	51.96	52.22	52.60	51.78	51.05	51.94	51.72	52.22	52.60	51.17	52.22	52.51	52.37	52.97	52.77	52.31	52.15	52.24	51.53
TiO2	0.99	0.88	0.61	0.95	1.00	0.89	0.86	0.82	0.81	0.98	0.92	0.88	0.92	0.95	0.90	0.82	0.86	0.92	0.90
Al2O3	2.72	2.59	2.36	2.99	2.83	3.13	2.83	2.95	2.79	2.62	2.71	2.62	2.64	2.78	2.79	2.81	2.76	2.75	2.70
V2O3																			
Cr2O3	0.07	0.12	0.03	0.09	0.09	0.31	0.18	0.57	0.29	0.10	0.11	0.15	0.13	0.15	0.21	0.05	0.13	0.15	0.16
MgO	16.04	16.39	15.59	15.61	14.64	14.87	15.20	14.99	15.31	15.90	15.27	15.88	15.78	15.48	15.79	15.24	15.53	15.25	15.11
CaO	19.63	19.56	22.68	20.89	21.83	21.24	21.23	21.06	21.29	18.75	20.97	20.32	20.08	20.77	20.16	20.84	20.08	21.63	22.28
MnO	0.19	0.18	0.12	0.10	0.15	0.19	0.20	0.16	0.11	0.19	0.15	0.16	0.18	0.13	0.24	0.18	0.18	0.19	0.17
FeO	7.63	7.98	6.71	7.90	6.91	6.65	7.33	7.58	7.22	9.26	7.63	7.35	7.61	6.92	6.54	7.16	6.97	6.58	6.89
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
ZnO																			
Na2O	0.39	0.32	0.27	0.38	0.49	0.59	0.45	0.40	0.38	0.41	0.43	0.43	0.46	0.41	0.43	0.48	0.47	0.00	0.50
K2O	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.01	0.00	0.00
Total	**99.62**	**100.25**	**100.96**	**100.70**	**99.00**	**99.81**	**100.01**	**100.75**	**100.80**	**99.38**	**100.40**	**100.31**	**100.19**	**100.57**	**99.84**	**99.88**	**99.13**	**99.73**	**100.24**
T																			
Si	1.92	1.92	1.92	1.90	1.90	1.92	1.91	1.92	1.93	1.90	1.92	1.93	1.93	1.94	1.94	1.93	1.93	1.93	1.89
Al IV	0.08	0.08	0.08	0.10	0.10	0.08	0.09	0.08	0.07	0.10	0.08	0.07	0.07	0.06	0.06	0.07	0.07	0.07	0.11
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.03	0.02	0.03	0.03	0.05	0.03	0.05	0.05	0.02	0.04	0.04	0.04	0.06	0.06	0.05	0.06	0.05	0.01
Fe3+	0.01	0.02	0.05	0.05	0.05	0.01	0.04	0.01	0.00	0.05	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.07
Ti4+	0.03	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.03	0.02
Cr3+	0.002	0.004	0.001	0.003	0.003	0.009	0.005	0.017	0.008	0.003	0.003	0.004	0.004	0.004	0.006	0.002	0.004	0.004	0.005
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.88	0.90	0.85	0.85	0.81	0.82	0.84	0.82	0.84	0.88	0.84	0.87	0.87	0.84	0.86	0.84	0.86	0.84	0.83
Fe2+	0.04	0.02	0.07	0.04	0.08	0.08	0.06	0.09	0.09	0.02	0.08	0.05	0.05	0.07	0.04	0.08	0.06	0.08	0.06
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.19	0.20	0.09	0.15	0.09	0.11	0.12	0.14	0.13	0.22	0.14	0.16	0.17	0.14	0.16	0.14	0.16	0.12	0.08
Mn2+	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
Ca2+	0.78	0.77	0.89	0.82	0.87	0.84	0.84	0.83	0.84	0.75	0.83	0.80	0.79	0.81	0.79	0.82	0.80	0.86	0.88
Na+	0.03	0.02	0.02	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.04
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**0.98**	**1.00**
Wo (%)	41	40	46	43	46	45	44	44	44	39	43	42	42	43	43	44	42	45	46
En (%)	**46**	**47**	**44**	**44**	**43**	**44**	**44**	**43**	**44**	**46**	**44**	**46**	**46**	**45**	**46**	**44**	**46**	**44**	**43**
Fs (%)	13	13	11	13	12	11	12	13	12	15	13	12	13	12	11	12	12	11	11
Q	1.89	1.89	1.89	1.86	1.86	1.85	1.86	1.88	1.89	1.86	1.88	1.89	1.88	1.87	1.86	1.88	1.87	1.90	1.84
J	0.06	0.05	0.04	0.05	0.07	0.08	0.06	0.06	0.05	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.07	0.00	0.07
Cr (ppm)	465	834	185	649	627	2128	1253	3918	1951	709	726	1033	922	1022	1436	359	920	1041	1107
Ti (ppm)	5945	5246	3629	5683	6018	5310	5128	4899	4868	5875	5514	5271	5522	5705	5384	4891	5166	5532	5366
Mn (pmm)	1471	1412	908	799	1159	1507	1516	1218	863	1452	1150	1214	1424	1003	1894	1431	1393	1447	1328
Mg#	**0.79**	**0.79**	**0.81**	**0.78**	**0.79**	**0.80**	**0.79**	**0.78**	**0.79**	**0.75**	**0.78**	**0.79**	**0.79**	**0.80**	**0.81**	**0.79**	**0.80**	**0.81**	**0.80**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb							
DESCRIP	Cpx (B)	Cpx inc Ol ??(C)	Cpx inc Ol	Cpx intc (C)	Cpx Bleb (C)	Cpx poiq (C)	Cpx poiq (B)	Cpx inc Pl (C)	Cpx inc Pl (B)	Cpx cum (C)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (C)
SAMPLE	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-1A	CVD-1A	CVD-1A	CVD-20	CVD-20	CVD-20	CVD-20
Label	885 (1-11)	886 (2-1)	889 (2-4)	890 (2-5)	892 (2-7)	893 (3-1)	894 (3-2)	895 [4-2]	896 [4-2]	975 [1-7]	982 [2-7]	983 [2-8]	927 [3-3]	928 [3-4]	935 [4-3]	936 [4-4]
SiO2	51.67	52.07	50.56	53.07	52.96	51.81	51.18	53.05	52.61	51.94	51.91	52.30	51.91	53.49	52.52	52.06
TiO2	0.77	0.68	0.83	0.83	0.73	0.69	0.76	0.97	0.93	0.83	0.90	0.84	0.81	0.41	0.62	0.73
Al2O3	2.87	2.64	2.75	2.74	2.88	2.89	2.81	2.73	2.82	2.95	2.99	2.86	2.82	2.11	2.70	2.69
V2O3																
Cr2O3	0.25	0.36	0.11	0.10	0.13	0.26	0.17	0.15	0.20	0.21	0.56	0.17	0.04	0.00	0.05	0.10
MgO	15.09	15.40	15.82	16.07	15.86	15.96	15.46	15.98	15.84	14.61	15.81	14.94	15.11	15.61	15.36	15.12
CaO	21.83	22.51	21.95	20.02	21.46	20.97	22.40	20.10	20.52	20.87	18.92	20.35	21.33	22.30	21.99	21.75
MnO	0.14	0.15	0.15	0.18	0.17	0.11	0.17	0.25	0.19	0.23	0.27	0.22	0.22	0.12	0.17	0.19
FeO	6.18	6.28	6.74	7.96	6.52	7.84	6.30	6.95	7.14	6.45	8.12	6.66	7.91	6.94	7.27	7.84
NiO	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
ZnO																
Na2O	0.50	0.00	0.50	0.39	0.45	0.43	0.44	0.47	0.44	0.56	0.42	0.43	0.00	0.33	0.39	0.40
K2O	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	99.31	100.08	99.43	101.36	101.20	100.97	99.70	100.66	100.68	98.64	99.90	98.77	100.16	101.32	101.06	100.88
T																
Si	1.91	1.92	1.87	1.93	1.92	1.89	1.89	1.94	1.92	1.94	1.92	1.94	1.92	1.95	1.92	1.91
Al IV	0.09	0.08	0.12	0.07	0.08	0.11	0.11	0.06	0.08	0.06	0.08	0.06	0.08	0.05	0.08	0.09
Fe3+	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																
Al VI	0.04	0.03	0.00	0.05	0.05	0.01	0.01	0.05	0.05	0.07	0.05	0.07	0.04	0.04	0.03	0.02
Fe3+	0.03	0.00	0.13	0.00	0.02	0.08	0.09	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.04	0.06
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.01	0.02	0.02
Cr3+	0.007	0.010	0.003	0.003	0.004	0.007	0.005	0.004	0.006	0.006	0.016	0.005	0.001	0.000	0.001	0.003
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.85	0.84	0.87	0.86	0.87	0.85	0.87	0.86	0.81	0.87	0.83	0.83	0.85	0.84	0.83
Fe2+	0.07	0.09	0.00	0.05	0.05	0.01	0.03	0.05	0.05	0.09	0.04	0.07	0.10	0.09	0.07	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																
Mg2+	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.10	0.07	0.19	0.13	0.15	0.08	0.17	0.16	0.11	0.21	0.13	0.14	0.10	0.11	0.11
Mn2+	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Ca2+	0.87	0.89	0.87	0.78	0.83	0.82	0.88	0.79	0.80	0.83	0.75	0.81	0.85	0.87	0.86	0.85
Na+	0.04	0.00	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.00	0.02	0.03	0.03
TOTAL M2	1.00	1.00	1.01	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.98	1.00	1.00	1.00	1.00
Wo (%)	46	46	44	41	44	42	46	42	43	45	40	44	44	45	45	44
En (%)	44	44	45	46	45	45	44	46	46	44	46	45	43	44	43	43
Fs (%)	10	10	11	13	11	13	10	12	12	11	14	12	13	11	12	13
Q	1.86	1.93	1.81	1.89	1.87	1.84	1.84	1.87	1.88	1.85	1.87	1.85	1.92	1.91	1.87	1.86
J	0.07	0.00	0.07	0.05	0.06	0.06	0.06	0.07	0.06	0.08	0.06	0.06	0.00	0.05	0.05	0.06
Cr (ppm)	1721	2447	765	651	861	1767	1183	1007	1364	1404	3833	1178	242	1	346	686
Ti (ppm)	4623	4097	5000	4969	4397	4146	4560	5843	5558	4979	5399	5055	4851	2432	3695	4376
Mn (pmm)	1063	1137	1195	1403	1317	874	1340	1952	1492	1773	2111	1722	1667	963	1341	1444
Mg#	0.81	0.81	0.81	0.78	0.81	0.78	0.81	0.80	0.80	0.80	0.78	0.80	0.77	0.80	0.79	0.77

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	1	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	PxGb	PxGb	PxGb	PxGb	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb-Cum Cpxnt	PxGb	PxGb	PxGb	PxGb	PxGb	PxGb	Cpxnt-Microgb Cpxnt
CLASIF	Hbl Gb	Hbl Gb																
DESCRIP	Cpx cum (C)	Cpx cum (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (C)	Cpx (C)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx Poik (B1)	Cpx Poik (M)	Cpx Poik (B2)	Cpx intc (C)
SAMPLE	PEROG 5	PEROG 5	CNT-23A	CNT-23A	SB-N3	SB-N3	SB-N3	SB-N3	SB-N3	SB-N3	SB-N3	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2	SB-N1
Label	1910 [1-3]	1911 [1-4]	1491 [2-4]	1492 [2-5]	1363 [1-1]	1364 [1-2]	1367 [2-1]	1368 [2-2]	1371 [3-2]	1365 [1-3]	1366 [1-4]	1233 [1-1]	1234 [1-2]	1235 [1-3]	1236 [1-4]	1237 [2-1]	1240 [2-4]	1243 [2-7]	1483 [3-1]
SiO2	53.31	52.50	51.65	50.76	52.14	52.04	51.75	52.43	51.28	52.31	52.36	53.00	53.28	53.14	52.62	52.19	52.51	53.52	51.55
TiO2	0.30	0.54	0.91	0.92	0.70	0.71	0.78	0.68	0.84	0.81	0.62	0.82	0.85	0.82	0.77	0.95	0.57	0.41	0.96
Al2O3	1.47	2.28	3.07	3.01	2.43	2.42	2.39	2.61	2.53	2.36	2.33	2.78	2.83	2.83	2.92	2.95	2.67	2.14	2.86
V2O3																			
Cr2O3	0.38	0.20	0.09	0.13	0.05	0.05	0.01	0.05	0.00	0.04	0.03	0.23	0.28	0.25	0.33	0.24	0.33	0.12	0.06
MgO	15.31	15.16	15.14	15.19	14.83	14.81	14.73	14.72	15.02	14.99	14.61	16.00	17.10	15.71	15.09	15.46	15.60	15.55	14.57
CaO	22.08	21.43	22.31	21.34	20.98	21.41	21.36	21.80	20.66	20.76	21.68	20.25	18.31	21.32	21.87	21.44	21.67	22.22	22.88
MnO	0.22	0.24	0.19	0.29	0.24	0.23	0.23	0.25	0.29	0.28	0.26	0.18	0.17	0.14	0.19	0.18	0.15	0.14	0.17
FeO	6.12	6.17	7.44	7.06	7.71	7.81	8.14	8.04	8.47	8.42	7.74	6.18	6.79	6.42	5.74	5.94	5.76	5.37	6.71
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.21	0.32	0.52	0.46	0.44	0.42	0.39	0.39	0.38	0.00	0.00	0.47	0.36	0.44	0.49	0.44	0.31	0.29	0.43
K2O	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Total	**99.39**	**98.84**	**101.33**	**99.15**	**99.53**	**99.92**	**99.77**	**100.97**	**99.48**	**99.96**	**99.65**	**99.89**	**99.97**	**101.08**	**100.03**	**99.78**	**99.57**	**99.74**	**100.19**
T																			
Si	1.97	1.95	1.88	1.89	1.94	1.93	1.92	1.92	1.91	1.94	1.94	1.94	1.94	1.93	1.93	1.92	1.94	1.96	1.90
Al IV	0.03	0.05	0.12	0.11	0.06	0.07	0.08	0.08	0.09	0.06	0.06	0.06	0.06	0.07	0.07	0.08	0.06	0.04	0.10
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.05	0.01	0.02	0.04	0.03	0.03	0.04	0.02	0.04	0.05	0.06	0.07	0.05	0.06	0.05	0.05	0.06	0.02
Fe3+	0.00	0.00	0.09	0.07	0.01	0.03	0.04	0.03	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Ti4+	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.01	0.03
Cr3+	0.011	0.006	0.002	0.004	0.002	0.002	0.000	0.002	0.000	0.001	0.001	0.007	0.008	0.007	0.010	0.007	0.010	0.003	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.84	0.84	0.82	0.84	0.82	0.82	0.82	0.80	0.83	0.83	0.81	0.87	0.90	0.85	0.83	0.85	0.86	0.85	0.80
Fe2+	0.10	0.09	0.05	0.04	0.10	0.10	0.10	0.11	0.07	0.11	0.13	0.03	0.00	0.07	0.08	0.07	0.06	0.08	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.11	0.09	0.11	0.13	0.11	0.12	0.11	0.14	0.15	0.11	0.15	0.21	0.13	0.09	0.12	0.11	0.09	0.06
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.01
Ca2+	0.88	0.85	0.87	0.85	0.84	0.85	0.85	0.86	0.82	0.82	0.86	0.80	0.72	0.83	0.86	0.85	0.86	0.87	0.90
Na+	0.01	0.02	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03
TOTAL M2	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**0.99**	**0.98**	**1.00**	**0.99**	**1.00**	**1.00**	**0.99**	**1.00**
Wo (%)	46	45	45	44	44	44	44	45	43	43	45	43	39	44	46	45	45	46	47
En (%)	**44**	**44**	**43**	**44**	**43**	**43**	**42**	**42**	**43**	**43**	**42**	**47**	**50**	**45**	**44**	**45**	**45**	**45**	**42**
Fs (%)	10	11	12	12	13	13	13	13	14	14	13	10	11	11	10	10	10	9	11
Q	1.91	1.89	1.82	1.84	1.89	1.88	1.88	1.88	1.87	1.91	1.91	1.86	1.85	1.88	1.86	1.88	1.89	1.89	1.86
J	0.03	0.05	0.07	0.07	0.06	0.06	0.06	0.06	0.05	0.00	0.00	0.07	0.05	0.06	0.07	0.06	0.04	0.04	0.06
Cr (ppm)	2602	1352	590	873	357	369	76	356	1	305	204	1563	1942	1692	2261	1630	2231	796	412
Ti (ppm)	1789	3255	5462	5514	4225	4254	4667	4055	5025	4831	3691	4886	5091	4932	4641	5669	3437	2445	5776
Mn (pmm)	1671	1859	1480	2214	1875	1808	1747	1927	2261	2154	2044	1375	1282	1115	1478	1432	1171	1070	1278
Mg#	**0.82**	**0.81**	**0.78**	**0.79**	**0.77**	**0.77**	**0.76**	**0.77**	**0.76**	**0.76**	**0.77**	**0.82**	**0.82**	**0.81**	**0.82**	**0.82**	**0.83**	**0.84**	**0.79**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cpxnt-Microgb	Cpxnt-Microgb	Cpxnt-Microgb	Cpxnt-Microgb	Cpxnt-Microgb	Microgb	Microgb	Microgb	Microgb	Microgb	Ol Leucog I	Ol Leucog I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF	Cpxnt	Cpxnt	Microgb	Microgb	Microgb						Anort	Anort							
DESCRIP	Cpxintc (M)	Cpxintc (B)	Cpxbleb (C)	Cpxcum (C)	CpxPoik (C)	CpxPoik (C)	CpxPoik (B)	Cpxbleb inc Pl (C)	Cpxcum (C)	Cpxintc (B)	Cpxintc (C)	Cpxintc (B)	Cpxintc (C)	Cpxcum (C)	Cpxintc (C)	Cpx (C)	Cpxintc (C)	Cpxintc (C)	Cpxintc (B)
SAMPLE	SB-N1	SB-N1	SB-N1	SB-N1	SB-N1	CNT-24	CNT-24	CNT-24	CNT-24	CNT-24	SB-33	SB-33	CNT-26	CNT-26	CNT-26	CNT-26	CNT-19	CNT-19	CNT-19
Label	1484 [3-2]]	1485 [3-3]]	1471[1-2]	1473 [1-4]	1475 [1-6]	1460 [4-1]	1461[4-2]	1465 [5-2]	1467 [5-4]	1458 [2-2]	1706[1-1]	1707[1-2]	1372 [3-1]	1373 [3-2]	1374 [3-3]	1383 [5-1]	1554 [3-4]	1563 [4-5]	1564 [4-6]
SiO2	51.40	51.15	50.56	51.70	51.24	52.24	51.58	51.76	51.10	51.81	51.90	51.71	51.57	52.16	52.50	52.12	52.09	51.33	51.89
TiO2	1.02	0.86	0.97	0.92	1.08	0.90	0.87	0.87	0.88	0.87	0.82	0.67	0.72	0.57	0.41	0.47	0.69	0.72	0.64
Al2O3	2.99	2.71	3.18	3.28	3.21	2.95	2.89	2.88	2.86	2.90	2.84	2.86	3.20	2.92	2.72	3.14	2.74	2.90	2.78
V2O3																			
Cr2O3	0.08	0.08	0.12	0.12	0.20	0.12	0.07	0.06	0.07	0.03	0.00	0.00	0.19	0.13	0.13	0.26	0.02	0.00	0.06
MgO	15.20	14.45	14.54	14.43	15.15	14.76	15.06	14.57	14.37	15.26	14.56	14.72	14.66	15.69	14.90	14.92	16.93	14.81	15.17
CaO	21.95	22.96	21.99	21.56	20.10	21.18	20.65	21.45	21.51	19.72	20.75	21.36	21.39	19.54	21.72	21.35	17.10	22.19	22.90
MnO	0.22	0.24	0.17	0.22	0.21	0.26	0.25	0.28	0.17	0.26	0.24	0.27	0.19	0.27	0.15	0.20	0.22	0.17	0.15
FeO	7.12	7.05	7.06	7.26	7.46	7.81	7.65	7.48	7.49	7.93	7.84	7.69	6.87	8.19	6.98	6.81	8.87	6.91	5.89
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.52	0.54	0.46	0.44	0.50	0.48	0.39	0.49	0.43	0.41	0.51	0.42	0.50	0.43	0.43	0.45	0.32	0.32	0.32
K2O	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.00	0.01
Total	**100.50**	**100.04**	**99.06**	**99.93**	**99.14**	**100.70**	**99.40**	**99.84**	**98.88**	**99.18**	**99.46**	**99.69**	**99.31**	**99.91**	**99.95**	**99.71**	**98.98**	**99.34**	**99.79**
T																			
Si	1.88	1.89	1.88	1.91	1.91	1.92	1.92	1.92	1.91	1.93	1.93	1.92	1.91	1.92	1.94	1.93	1.93	1.91	1.91
Al IV	0.12	0.11	0.12	0.09	0.09	0.08	0.08	0.08	0.09	0.07	0.07	0.08	0.09	0.08	0.06	0.07	0.07	0.09	0.09
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.01	0.01	0.02	0.06	0.05	0.05	0.04	0.04	0.04	0.06	0.05	0.04	0.06	0.05	0.06	0.06	0.05	0.03	0.03
Fe3+	0.08	0.09	0.07	0.01	0.02	0.02	0.02	0.03	0.03	0.00	0.01	0.03	0.02	0.02	0.01	0.01	0.00	0.04	0.04
Ti4+	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02
Cr3+	0.002	0.002	0.003	0.004	0.006	0.004	0.002	0.002	0.002	0.001	0.000	0.000	0.006	0.004	0.004	0.008	0.001	0.000	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.80	0.81	0.80	0.84	0.81	0.83	0.80	0.80	0.85	0.81	0.81	0.81	0.86	0.82	0.82	0.93	0.82	0.83
Fe2+	0.04	0.08	0.07	0.11	0.06	0.10	0.08	0.10	0.10	0.07	0.11	0.09	0.09	0.05	0.10	0.09	0.00	0.08	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Fe2+	0.09	0.05	0.08	0.11	0.16	0.12	0.14	0.10	0.10	0.17	0.13	0.11	0.11	0.19	0.11	0.12	0.28	0.09	0.07
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00
Ca2+	0.86	0.91	0.88	0.86	0.80	0.83	0.82	0.85	0.86	0.79	0.83	0.85	0.85	0.77	0.86	0.85	0.68	0.88	0.90
Na+	0.04	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.02
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	45	47	46	45	43	44	43	45	45	42	44	44	45	41	45	45	36	46	47
En (%)	**43**	**41**	**42**	**42**	**45**	**43**	**44**	**42**	**42**	**45**	**43**	**43**	**43**	**45**	**43**	**44**	**49**	**43**	**43**
Fs (%)	12	12	12	12	13	13	13	13	13	14	13	13	12	14	12	11	15	11	10
Q	1.83	1.83	1.84	1.87	1.86	1.87	1.88	1.86	1.87	1.88	1.87	1.87	1.85	1.87	1.88	1.87	1.89	1.88	1.88
J	0.07	0.08	0.07	0.06	0.07	0.07	0.06	0.07	0.06	0.06	0.07	0.06	0.07	0.06	0.06	0.06	0.05	0.05	0.05
Cr (ppm)	514	578	811	854	1349	842	459	407	484	178	1	1	1318	915	920	1757	164	1	398
Ti (ppm)	6094	5163	5843	5496	6452	5367	5195	5201	5296	5199	4929	3999	4323	3433	2432	2818	4150	4294	3855
Mn (pmm)	1683	1831	1348	1671	1659	1976	1908	2172	1333	2030	1865	2058	1463	2096	1191	1512	1665	1293	1126
Mg#	**0.79**	**0.78**	**0.79**	**0.78**	**0.78**	**0.77**	**0.78**	**0.78**	**0.77**	**0.77**	**0.77**	**0.77**	**0.79**	**0.77**	**0.79**	**0.80**	**0.77**	**0.79**	**0.82**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	2	2	2	2	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II	Ol Leucog II	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb
CLASIF											Hyb-Gb	Hyb-Gb							
DESCRIP	Cpx (C)	Cpx (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx intc (C)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)
SAMPLE	SB-W3	SB-W3	SB-W3	SB-W3	CNT-17-1	CNT-17-1	CNT-17-1	CNT-17-1	CNT-15A	CNT-15A	CNT-15-1	CNT-15-1	CNT-20	CNT-20	CNT-20	CNT-20	CNT-20	CNT-18	CNT-18
Label	1689 [1-10]	1690 [1-11]	1704 [6-7]	1705 [6-8]	1400 [3-4]	1401[3-5]	1407 [4-4]	1408 [4-5]	1358 [2-1]	1359 [2-2]	1957 [4-1]	1958 [4-2]	1729 [3-7]	1730 [3-8]	1731[3-9]	1738 [6-1]	1739 [6-2]	1438 [1-3]	1439 [1-4]
SiO2	52.29	52.02	52.17	51.47	51.83	51.88	51.94	51.49	51.66	51.90	54.82	54.95	52.39	51.20	51.49	51.87	51.95	51.52	52.24
TiO2	0.74	0.73	0.76	0.66	0.64	0.71	0.73	0.66	0.76	0.68	0.07	0.09	0.55	1.02	0.90	0.92	0.57	0.96	0.75
Al2O3	2.74	3.11	2.91	2.96	2.89	2.98	2.77	3.03	3.02	2.76	0.50	0.51	2.58	2.91	3.28	3.00	3.08	3.10	2.48
V2O3																			
Cr2O3	0.28	0.10	0.15	0.09	0.31	0.22	0.50	0.17	0.25	0.15	0.00	0.00	0.00	0.11	0.12	0.14	0.15	0.23	0.09
MgO	14.68	14.78	14.86	14.42	15.33	15.30	15.25	14.82	14.88	15.10	15.62	14.50	14.93	14.55	15.30	14.78	14.57	15.81	15.16
CaO	20.71	21.85	20.28	21.49	21.43	21.68	19.59	22.95	21.69	22.20	23.87	24.32	21.88	22.45	19.93	22.48	22.38	20.81	22.62
MnO	0.29	0.17	0.23	0.25	0.19	0.25	0.17	0.15	0.15	0.17	0.23	0.25	0.18	0.20	0.26	0.20	0.24	0.20	0.20
FeO	8.69	6.34	7.37	7.14	6.92	7.28	9.09	6.31	6.90	6.37	5.32	6.24	6.88	7.04	6.76	6.53	6.75	6.68	6.10
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.42	0.40	0.47	0.42	0.43	0.43	0.46	0.31	0.45	0.43	0.12	0.09	0.44	0.42	0.52	0.46	0.48	0.45	0.48
K2O	0.00	0.00	0.02	0.00	0.02	0.01	0.01	0.01	0.00	0.02	0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Total	**100.86**	**99.52**	**99.21**	**98.89**	**99.96**	**100.74**	**100.49**	**99.88**	**99.76**	**99.76**	**100.54**	**100.95**	**99.83**	**99.89**	**98.58**	**100.39**	**100.17**	**99.74**	**100.10**
T																			
Si	1.92	1.93	1.94	1.92	1.91	1.90	1.91	1.90	1.91	1.92	2.00	2.01	1.93	1.89	1.92	1.91	1.91	1.90	1.92
Al IV	0.08	0.07	0.06	0.08	0.09	0.10	0.09	0.10	0.09	0.08	0.00	-0.01	0.07	0.11	0.08	0.09	0.09	0.10	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.06	0.07	0.05	0.03	0.03	0.04	0.03	0.04	0.04	0.02	0.03	0.05	0.02	0.07	0.04	0.05	0.03	0.03
Fe3+	0.01	0.00	0.00	0.01	0.04	0.06	0.03	0.05	0.03	0.04	0.00	0.00	0.02	0.05	0.00	0.04	0.04	0.04	0.04
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.02	0.03	0.03	0.03	0.02	0.03	0.02
Cr3+	0.008	0.003	0.004	0.003	0.009	0.006	0.015	0.005	0.007	0.004	0.000	0.000	0.000	0.003	0.004	0.004	0.004	0.007	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.81	0.82	0.82	0.80	0.84	0.83	0.84	0.82	0.82	0.83	0.85	0.79	0.82	0.80	0.85	0.81	0.80	0.87	0.83
Fe2+	0.11	0.10	0.09	0.11	0.05	0.05	0.06	0.08	0.08	0.07	0.12	0.18	0.10	0.09	0.06	0.09	0.09	0.02	0.08
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.14	0.10	0.14	0.10	0.12	0.11	0.19	0.07	0.10	0.09	0.04	0.01	0.10	0.07	0.16	0.08	0.07	0.14	0.07
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.82	0.87	0.81	0.86	0.85	0.85	0.77	0.91	0.86	0.88	0.93	0.95	0.87	0.89	0.80	0.89	0.88	0.82	0.89
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.01	0.01	0.03	0.03	0.04	0.03	0.03	0.03	0.03
TOTAL M2	**1.00**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.98**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	43	46	43	45	44	44	41	47	45	46	48	49	45	46	43	47	47	43	47
En (%)	**42**	**43**	**44**	**42**	**44**	**44**	**44**	**42**	**43**	**43**	**44**	**41**	**43**	**42**	**46**	**43**	**42**	**46**	**43**
Fs (%)	15	11	13	12	11	12	15	10	11	11	9	10	11	12	12	11	11	11	10
Q	1.88	1.88	1.86	1.87	1.86	1.85	1.86	1.87	1.86	1.87	1.95	1.93	1.88	1.86	1.86	1.86	1.85	1.85	1.87
J	0.06	0.06	0.07	0.06	0.06	0.06	0.07	0.04	0.06	0.06	0.02	0.01	0.06	0.06	0.08	0.07	0.07	0.06	0.07
Cr (ppm)	1946	717	1046	639	2096	1482	3442	1154	1727	1000	1	26	1	768	818	974	1050	1552	587
Ti (ppm)	4459	4373	4560	3941	3824	4265	4346	3957	4532	4051	411	514	3314	6107	5418	5504	3436	5762	4487
Mn (pmm)	2210	1317	1798	1901	1439	1922	1278	1160	1136	1329	1775	1913	1374	1532	2048	1576	1891	1555	1513
Mg#	**0.75**	**0.81**	**0.78**	**0.78**	**0.80**	**0.79**	**0.75**	**0.81**	**0.79**	**0.81**	**0.84**	**0.81**	**0.79**	**0.79**	**0.80**	**0.80**	**0.79**	**0.81**	**0.82**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF																			
DESCRIP	Cpx intc (C)	Cpx intc (M)	Cpx intc (B)	Cpx ©	Cpx (B)	Cpx I ©	Cpx II ©	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx ©	Cpx ©	Cpx (B)	Troct Cpx cum (B)
SAMPLE	CNT-18	CNT-18	CNT-18	SB-14A	SB-14A	SB-14A	SB-14A	SB-6	SB-6	SB-6	SB-6	CNT-27	CNT-27	CNT-27	CNT-27	SB-13	SB-13	SB-13	SB-17-E
Label	1444 [2-1]	1445 [2-2]	1446 [2-3]	495 (1_1)	496 (1_2)	499 (2_1)	500 (2_2)	513 (4_1)	514 (4_2)	517 (5_1)	518 (5_2)	1798 [2-5]	1799 [2-6]	1809 [4-5]	1810 [4-6]	466 (1_1)	476 (3_3)	477 (3_4)	2569 [1-2]
SiO2	51.32	51.23	51.39	52.65	52.00	51.90	52.54	52.75	52.02	52.45	51.70	51.54	50.56	51.43	51.56	51.51	51.95	51.88	51.35
TiO2	0.80	0.88	1.00	0.73	0.91	0.81	0.78	0.77	0.76	0.79	0.72	0.74	0.71	0.73	0.70	0.74	0.77	0.75	0.83
Al2O3	3.22	3.59	3.30	2.44	3.01	3.06	2.76	2.45	3.05	2.53	3.06	2.69	2.90	2.41	2.95	3.10	2.79	2.80	3.34
V2O3																			
Cr2O3	0.22	0.45	0.15	0.08	0.15	0.17	0.12	0.06	0.14	0.20	0.23	0.04	0.01	0.08	0.04	0.24	0.10	0.15	0.24
MgO	14.67	15.63	14.95	16.11	15.19	16.15	15.32	15.62	15.13	15.89	15.15	15.01	14.69	14.86	14.97	15.98	16.92	15.96	14.44
CaO	22.73	19.56	22.16	21.25	21.95	20.68	21.92	20.84	21.29	20.37	20.98	22.11	22.53	21.69	21.11	20.35	19.14	20.90	22.26
MnO	0.16	0.19	0.13	0.17	0.19	0.16	0.23	0.16	0.15	0.15	0.21	0.20	0.17	0.24	0.21	0.20	0.15	0.18	0.19
FeO	6.28	6.74	6.81	6.41	6.51	7.39	6.36	6.80	6.77	7.65	6.74	8.26	6.79	7.01	7.78	6.48	6.93	5.99	6.61
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.51	0.48	0.43	0.32	0.45	0.44	0.45	0.00	0.00	0.00	0.04	0.41	0.52	0.52	0.42	0.48	0.40	0.40	0.43
K2O	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Total	**99.91**	**98.75**	**100.33**	**100.15**	**100.35**	**100.77**	**100.47**	**99.44**	**99.31**	**100.04**	**98.82**	**100.99**	**98.88**	**98.95**	**99.74**	**99.08**	**99.14**	**99.01**	**99.68**
T																			
Si	1.89	1.91	1.89	1.93	1.91	1.89	1.92	1.95	1.93	1.93	1.93	1.89	1.88	1.92	1.91	1.91	1.92	1.92	1.90
Al IV	0.11	0.09	0.11	0.07	0.09	0.11	0.08	0.05	0.07	0.07	0.07	0.11	0.12	0.08	0.09	0.09	0.08	0.08	0.10
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.03	0.06	0.03	0.04	0.04	0.02	0.04	0.05	0.06	0.04	0.06	0.00	0.01	0.02	0.04	0.04	0.04	0.04	0.05
Fe3+	0.06	0.00	0.05	0.01	0.03	0.06	0.02	0.00	0.00	0.00	0.00	0.10	0.10	0.06	0.04	0.04	0.02	0.02	0.03
Ti4+	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cr3+	0.006	0.013	0.004	0.002	0.004	0.005	0.003	0.002	0.004	0.006	0.007	0.001	0.000	0.002	0.001	0.007	0.003	0.005	0.007
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.81	0.87	0.82	0.88	0.83	0.88	0.84	0.86	0.84	0.87	0.84	0.82	0.82	0.83	0.83	0.88	0.91	0.88	0.80
Fe2+	0.07	0.03	0.07	0.05	0.07	0.01	0.08	0.06	0.08	0.06	0.07	0.06	0.05	0.07	0.07	0.01	0.00	0.03	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Fe2+	0.06	0.18	0.09	0.14	0.10	0.16	0.10	0.15	0.13	0.18	0.14	0.10	0.06	0.09	0.13	0.15	0.19	0.14	0.08
Mn2+	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Ca2+	0.90	0.78	0.87	0.84	0.86	0.81	0.86	0.82	0.85	0.80	0.84	0.87	0.90	0.87	0.84	0.81	0.76	0.83	0.88
Na+	0.04	0.03	0.03	0.02	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.98**	**0.98**	**0.99**	**0.98**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	47	42	46	44	45	42	45	43	45	42	44	45	47	45	44	43	40	44	47
En (%)	**42**	**47**	**43**	**46**	**44**	**46**	**44**	**45**	**44**	**46**	**44**	**42**	**42**	**43**	**43**	**47**	**49**	**46**	**42**
Fs (%)	10	12	11	11	11	12	11	11	11	13	11	13	11	12	13	11	11	10	11
Q	1.84	1.85	1.85	1.90	1.86	1.85	1.87	1.89	1.89	1.91	1.89	1.84	1.82	1.85	1.86	1.85	1.88	1.88	1.86
J	0.07	0.07	0.06	0.05	0.06	0.06	0.06	0.00	0.00	0.00	0.01	0.06	0.07	0.07	0.06	0.07	0.06	0.06	0.06
Cr (ppm)	1508	3056	1021	558	1043	1186	827	387	969	1400	1573	293	64	524	294	1669	690	1056	1610
Ti (ppm)	4817	5268	6006	4351	5434	4855	4659	4620	4570	4743	4330	4427	4249	4393	4167	4441	4604	4512	4991
Mn (pmm)	1258	1445	998	1306	1489	1224	1767	1223	1131	1169	1588	1558	1348	1890	1607	1547	1172	1398	1454
Mg#	**0.81**	**0.81**	**0.80**	**0.82**	**0.81**	**0.80**	**0.81**	**0.80**	**0.80**	**0.79**	**0.80**	**0.76**	**0.79**	**0.79**	**0.77**	**0.81**	**0.81**	**0.83**	**0.80**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	3	3	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Int	Int	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb
CLASIF	Anort	Anort	Anort	Anort															
DESCRIP	Cpx intc ©	Cpx intc (B)	Cpx intc ©	Cpx intc (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx ©	Cpx (B)	Cpx macla ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©
SAMPLE	SB-2A	SB-2A	SB-2A	SB-2A	CNT-22	CNT-22	CNT-22	CNT-22	CNT-28	CNT-28	CNT-28	CNT-28	SB-11	SB-11	SB-11	SB-11	SB-3	SB-3	SB-3
Label	536 (1_1)	537 (1_2)	541(2_1)	542 (2_2)	1836 [4-4]	1837 [4-5]	1838 [5-1]	1839 [5-2]	1814 [1-3]	1815 [1-4]	1823 [4-4]	1824 [4-5]	422 (1_1)	423 (1_2)	429 (4_3)	430 (4_4)	453 (1_5)	454 (1_6)	458 (3_2)
SiO2	51.29	52.46	52.03	52.34	50.81	51.18	50.95	51.13	51.11	51.04	51.35	50.96	51.44	51.57	52.24	52.35	51.79	52.44	51.94
TiO2	0.81	0.53	0.49	0.51	0.95	0.80	0.92	0.81	0.71	0.79	0.77	0.69	0.91	0.69	0.98	1.07	0.73	0.67	0.82
Al2O3	3.59	2.80	3.31	2.72	2.85	2.91	2.97	2.91	2.84	2.74	2.59	2.86	3.12	3.07	3.08	3.28	2.70	2.42	2.70
V2O3																			
Cr2O3	0.11	0.15	0.05	0.16	0.02	0.00	0.07	0.03	0.03	0.01	0.08	0.01	0.02	0.03	0.02	0.02	0.04	0.07	0.05
MgO	14.29	14.17	14.57	14.18	15.07	14.75	15.35	14.66	14.81	15.03	15.44	14.65	14.80	15.26	15.71	15.51	14.92	15.12	15.25
CaO	20.39	22.19	21.07	22.39	20.31	22.02	20.72	22.13	21.81	20.78	20.91	22.44	20.64	20.59	20.13	20.32	21.23	22.28	21.14
MnO	0.17	0.28	0.22	0.20	0.27	0.20	0.16	0.22	0.23	0.20	0.00	0.00	0.10	0.12	0.16	0.17	0.15	0.17	0.25
FeO	7.90	7.04	7.17	6.75	8.19	7.41	8.39	7.25	7.40	8.15	8.14	6.96	7.53	7.64	8.09	8.30	7.08	6.85	7.44
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.51	0.40	0.44	0.33	0.38	0.38	0.54	0.41	0.44	0.41	0.38	0.48	0.38	0.43	0.45	0.38	0.45	0.41	0.40
K2O	0.08	0.00	0.13	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.06	0.03	0.09	0.00
Total	99.05	100.02	99.36	99.58	98.85	99.64	100.07	99.55	99.38	99.14	99.65	99.06	98.94	99.39	100.85	101.41	99.09	100.42	100.00
T																			
Si	1.91	1.94	1.93	1.94	1.90	1.90	1.88	1.90	1.90	1.90	1.90	1.90	1.92	1.91	1.91	1.91	1.93	1.92	1.92
Al IV	0.09	0.06	0.07	0.06	0.10	0.10	0.12	0.10	0.10	0.10	0.10	0.10	0.08	0.09	0.09	0.09	0.07	0.08	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.07	0.06	0.07	0.06	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.06	0.05	0.04	0.05	0.05	0.03	0.03
Fe3+	0.01	0.00	0.00	0.00	0.05	0.06	0.10	0.06	0.07	0.06	0.06	0.08	0.00	0.03	0.02	0.02	0.02	0.04	0.03
Ti4+	0.02	0.01	0.01	0.01	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02
Cr3+	0.003	0.004	0.002	0.005	0.000	0.000	0.002	0.001	0.001	0.000	0.002	0.000	0.001	0.001	0.001	0.001	0.001	0.002	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.79	0.78	0.81	0.78	0.84	0.82	0.84	0.81	0.82	0.84	0.85	0.81	0.82	0.84	0.86	0.84	0.83	0.83	0.84
Fe2+	0.10	0.14	0.10	0.14	0.06	0.08	0.02	0.08	0.07	0.06	0.04	0.07	0.09	0.06	0.05	0.06	0.09	0.08	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.14	0.08	0.12	0.07	0.15	0.09	0.14	0.08	0.09	0.13	0.14	0.07	0.14	0.15	0.17	0.17	0.12	0.09	0.13
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01
Ca2+	0.81	0.88	0.84	0.89	0.81	0.87	0.82	0.88	0.87	0.83	0.83	0.89	0.83	0.82	0.79	0.79	0.85	0.88	0.84
Na+	0.04	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
TOTAL M2	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	44	47	45	47	42	45	43	46	45	43	43	46	44	43	42	42	45	46	44
En (%)	43	41	43	41	44	42	44	42	43	43	44	42	44	44	45	44	44	43	44
Fs (%)	14	12	12	11	14	12	14	12	12	14	13	11	13	13	13	14	12	11	12
Q	1.85	1.88	1.86	1.88	1.86	1.86	1.82	1.85	1.85	1.86	1.87	1.84	1.88	1.87	1.87	1.87	1.88	1.87	1.88
J	0.07	0.06	0.06	0.05	0.05	0.05	0.08	0.06	0.06	0.06	0.05	0.07	0.05	0.06	0.06	0.05	0.06	0.06	0.06
Cr (ppm)	736	1041	351	1114	115	1	495	229	179	38	521	51	145	193	121	170	278	449	339
Ti (ppm)	4841	3188	2957	3075	5682	4781	5497	4878	4251	4721	4609	4129	5437	4130	5863	6397	4388	4009	4943
Mn (pmm)	1332	2180	1701	1578	2089	1530	1264	1681	1770	1564	33		753	925	1204	1317	1163	1306	1924
Mg#	0.76	0.78	0.78	0.79	0.77	0.78	0.77	0.78	0.78	0.77	0.77	0.79	0.78	0.78	0.78	0.77	0.79	0.80	0.79

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	3	3	3	3	3	1	1	1	1	1	2	2	2	2	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb
CLASIF																			
DESCRIP	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx (B)	Cpx ©	Cpx ©	Cpx intc (C)	Cpx intc (B)	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)
SAMPLE	SB-3	SB-3	SB-3	SB-12	SB-12	SB-12	SB-12	CNT-21	CNT-21	CNT-21	CNT-21	CNT-21	MB-5	MB-5	MB-5	MB-5	SB-S3	SB-S3	SB-S3
Label	459 (3_3)	464 (7_3)	465 (7_4)	528 (6_1)	529 (6_2)	530 (6_3)	535 (7_3)	1743 [1-3]	1744 [1-4]	1749 [2-6]	1752 [3-1]	1753 [3-2]	1778 [1-7]	1779 [1-8]	1791[5-3]	1792 [5-4]	2540 [2-3]	2541[2-4]	2546 [3-5]
SiO2	52.39	52.22	52.12	51.82	51.81	51.59	52.12	51.99	51.79	52.42	52.58	52.11	51.47	51.94	51.05	50.95	52.12	53.01	52.90
TiO2	0.86	0.73	0.77	0.89	0.68	0.95	0.82	0.92	0.80	0.75	0.80	0.89	0.91	0.94	0.87	0.93	0.72	0.73	0.74
Al2O3	2.89	2.80	2.77	3.01	2.95	3.07	3.10	2.72	2.99	3.01	2.88	3.24	2.97	3.25	2.89	3.20	2.59	2.71	2.54
V2O3																			
Cr2O3	0.06	0.07	0.04	0.09	0.07	0.04	0.03	0.06	0.05	0.00	0.02	0.03	0.07	0.08	0.07	0.09	0.03	0.00	0.06
MgO	15.50	15.62	14.87	14.95	14.92	15.36	15.39	15.09	14.65	14.60	15.15	14.25	15.74	14.85	14.91	14.39	14.92	15.33	15.69
CaO	20.46	19.90	21.77	20.76	20.84	19.60	20.62	21.10	22.50	21.11	20.16	21.10	20.12	22.27	21.16	22.16	21.67	21.97	20.81
MnO	0.20	0.18	0.19	0.16	0.19	0.15	0.23	0.22	0.24	0.25	0.16	0.18	0.26	0.21	0.24	0.17	0.18	0.15	0.24
FeO	8.03	7.77	7.10	7.88	7.78	8.47	8.58	8.09	7.21	7.59	8.13	7.53	8.24	7.01	7.62	7.41	6.58	6.21	7.40
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.45	0.41	0.45	0.38	0.42	0.42	0.40	0.45	0.42	0.44	0.44	0.52	0.45	0.45	0.48	0.45	0.40	0.39	0.37
K2O	0.00	0.00	0.00	0.25	0.00	0.21	0.05	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**100.85**	**99.69**	**100.09**	**99.94**	**99.67**	**99.65**	**101.28**	**100.64**	**100.64**	**100.18**	**100.33**	**99.86**	**100.24**	**100.98**	**99.29**	**99.75**	**99.21**	**100.50**	**100.75**
T																			
Si	1.92	1.93	1.92	1.91	1.92	1.91	1.90	1.91	1.90	1.93	1.93	1.93	1.89	1.90	1.90	1.89	1.94	1.94	1.94
Al IV	0.08	0.07	0.08	0.09	0.08	0.09	0.10	0.09	0.10	0.07	0.07	0.07	0.11	0.10	0.10	0.11	0.06	0.06	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.05	0.04	0.04	0.05	0.04	0.03	0.03	0.03	0.06	0.06	0.07	0.02	0.04	0.03	0.03	0.05	0.06	0.05
Fe3+	0.02	0.00	0.02	0.03	0.02	0.04	0.05	0.04	0.05	0.00	0.00	0.00	0.06	0.04	0.06	0.06	0.00	0.00	0.00
Ti4+	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.02
Cr3+	0.002	0.002	0.001	0.003	0.002	0.001	0.001	0.002	0.001	0.000	0.001	0.001	0.002	0.002	0.002	0.003	0.001	0.000	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.85	0.86	0.82	0.82	0.82	0.85	0.84	0.83	0.80	0.80	0.83	0.79	0.86	0.81	0.83	0.80	0.83	0.84	0.86
Fe2+	0.06	0.06	0.09	0.08	0.08	0.05	0.06	0.08	0.09	0.11	0.09	0.12	0.02	0.08	0.06	0.09	0.10	0.09	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.16	0.18	0.10	0.14	0.14	0.18	0.16	0.13	0.08	0.12	0.16	0.11	0.17	0.09	0.11	0.08	0.10	0.10	0.15
Mn2+	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01
Ca2+	0.80	0.79	0.86	0.82	0.83	0.78	0.81	0.83	0.89	0.83	0.79	0.84	0.79	0.87	0.84	0.88	0.86	0.86	0.82
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	42	42	45	43	44	41	42	43	46	44	42	45	41	46	44	46	45	46	43
En (%)	**45**	**45**	**43**	**43**	**43**	**45**	**44**	**43**	**42**	**43**	**44**	**42**	**45**	**43**	**43**	**42**	**44**	**44**	**45**
Fs (%)	13	13	12	13	13	14	14	13	12	13	14	13	14	12	13	12	11	10	12
Q	1.87	1.89	1.87	1.85	1.87	1.85	1.86	1.87	1.86	1.87	1.88	1.86	1.85	1.85	1.85	1.84	1.89	1.89	1.90
J	0.06	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.05	0.05
Cr (ppm)	422	446	290	616	447	277	181	421	333	1	166	204	504	532	447	588	193	26	423
Ti (ppm)	5131	4353	4628	5359	4071	5700	4915	5485	4800	4506	4788	5351	5429	5622	5228	5566	4315	4378	4462
Mn (pmm)	1536	1372	1487	1243	1508	1170	1768	1729	1867	1919	1267	1403	2040	1633	1832	1305	1384	1142	1834
Mg#	**0.77**	**0.78**	**0.79**	**0.77**	**0.77**	**0.76**	**0.76**	**0.77**	**0.78**	**0.77**	**0.77**	**0.77**	**0.77**	**0.79**	**0.78**	**0.78**	**0.80**	**0.81**	**0.79**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	3	3	3	3	3	0	0	0	0	0	0	0
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)	(SB I)
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	BG	BG	BG	BG	BG	BG	BG
UNIT	Oxd P x Gb	Oxd P x Gb	Oxd P x Gb	Oxd P x Gb	Oxd P x Gb	Oxd P x Gb	Oxd P x Gb	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF								Troct	Troct	Troct	Troct	Troct	Troct	Troct
DESCRIP	Cpx cum (B)	Cpx cum (C)	Cpx cum (C)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx intc (B)	Cpx intc (C)	Cpx intc (C)	Cpx intc (B)	Cpx (C)	Cpx (B)	Cpx_O_Opx (B)
SAMPLE	SB-S3	SB-S5	SB-S5	SB-S5	SB-S5	SB-S5	SB-S5	FA-4	FA-4	FA-4	FA-4	FA-4	FA-4	FA-5
Label	2547 [3-6]	2550 [1-1]	2551 [1-2]	2554 [1-1]	2555 [2-2]	2564 [4-3]	2565 [4-4]	1261 [6-2]	1262 [6-3]	1272 [9-3]	1273 [9-4]	1280 [12-1]	1281 [12-2]	1684 [5-4]
SiO2	53.16	51.73	52.42	52.56	52.54	52.64	52.24	52.78	52.52	51.79	52.73	51.36	52.10	54.28
TiO2	0.70	0.70	0.69	0.59	0.61	0.66	0.70	0.75	0.93	0.93	0.78	1.14	0.77	0.26
Al2O3	2.50	2.63	2.53	2.33	1.95	2.50	2.65	3.35	2.79	3.43	3.49	3.51	3.38	2.09
V2O3														
Cr2O3	0.09	0.02	0.03	0.00	0.03	0.03	0.01	0.65	0.58	0.65	0.67	0.60	0.75	0.14
MgO	15.87	15.69	15.97	15.97	15.91	15.97	15.81	16.00	16.33	15.58	15.91	15.68	15.76	17.03
CaO	20.51	21.10	21.36	20.80	21.18	21.00	21.47	22.57	21.97	23.10	22.83	22.98	23.22	23.73
MnO	0.11	0.15	0.13	0.15	0.15	0.12	0.18	0.14	0.10	0.13	0.13	0.12	0.12	0.09
FeO	7.43	7.13	7.09	7.06	7.34	6.22	6.52	3.32	3.53	3.32	3.75	3.37	2.99	3.28
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO														
Na2O	0.36	0.40	0.42	0.48	0.49	0.41	0.42	0.48	0.40	0.43	0.45	0.53	0.48	0.23
K2O	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Total	**100.73**	**99.55**	**100.64**	**99.95**	**100.21**	**99.55**	**100.02**	**100.04**	**99.15**	**99.35**	**100.72**	**99.31**	**99.57**	**101.12**
T														
Si	1.94	1.91	1.92	1.93	1.93	1.94	1.92	1.92	1.93	1.90	1.91	1.89	1.91	1.95
Al IV	0.06	0.09	0.08	0.07	0.07	0.06	0.08	0.08	0.07	0.10	0.09	0.11	0.09	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1														
Al VI	0.05	0.03	0.02	0.03	0.01	0.05	0.03	0.07	0.05	0.05	0.06	0.04	0.06	0.04
Fe3+	0.00	0.05	0.05	0.04	0.06	0.00	0.04	0.00	0.00	0.00	0.00	0.03	0.01	0.00
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.03	0.02	0.01
Cr3+	0.003	0.000	0.001	0.000	0.001	0.001	0.000	0.019	0.017	0.019	0.019	0.017	0.022	0.004
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.86	0.86	0.87	0.88	0.87	0.88	0.87	0.87	0.89	0.85	0.86	0.86	0.86	0.91
Fe2+	0.06	0.04	0.03	0.04	0.04	0.05	0.04	0.03	0.01	0.05	0.04	0.02	0.04	0.03
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2														
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.16	0.13	0.13	0.14	0.13	0.14	0.12	0.07	0.09	0.05	0.08	0.05	0.05	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ca2+	0.80	0.84	0.84	0.82	0.83	0.83	0.84	0.88	0.86	0.91	0.89	0.91	0.91	0.92
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.02
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	42	43	43	43	43	44	44	47	46	49	48	48	49	47
En (%)	**46**	**45**	**45**	**46**	**45**	**46**	**45**	**47**	**48**	**46**	**46**	**46**	**46**	**47**
Fs (%)	12	12	11	12	12	10	11	6	6	6	6	6	5	5
Q	1.89	1.87	1.87	1.87	1.87	1.90	1.87	1.85	1.87	1.87	1.86	1.84	1.86	1.93
J	0.05	0.06	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.06	0.06	0.08	0.07	0.03
Cr (ppm)	602	107	215	1	227	216	96	4441	3934	4429	4565	4104	5115	970
Ti (ppm)	4202	4223	4145	3546	3658	3939	4175	4480	5582	5596	4651	6842	4619	1536
Mn (pmm)	838	1193	1020	1194	1193	963	1403	1076	770	1019	973	937	892	712
Mg#	**0.79**	**0.80**	**0.80**	**0.80**	**0.79**	**0.82**	**0.81**	**0.90**	**0.89**	**0.89**	**0.88**	**0.89**	**0.90**	**0.90**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	1	1	1	2	2	2	2	3	3	3	3	1	1	1	1	1	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas
UNIT	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF																			
DESCRIP	Cpx intc (C)	Cpx intc (B)	Cpx Poik_Oxd (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik Oxd (C)	Cpx Poik Oxd (B)	Cpx intc (C)	Cpx intc (B)	Cpx (C)	Cpx cum (C)	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx intc (C)	Cpx intc (B)
SAMPLE	CNT-8	CNT-8	CNT-8	CNT-8	CNT-2	CNT-2	CNT-2	CNT-2	CNT-29	CNT-29	CNT-29	CNT-29	CNT-9	CNT-9	CNT-9	CNT-9	CNT-9	CNT-1	CNT-1
Label	1301 [1-1]	1302 [1-2]	1307 [3-4]	1308 [3-5]	1286 [2-3]	1287 [2-4]	1288 [3-3]	1289 [3-4]	1315 [3-6]	1316 [3-7]	1322 [4-5]	1323 [4-6]	1519 [1-6]	1520 [1-8]	1521 [1-9]	1526 [3-5]	1527 [3-6]	1499 [1-1]	1500 [1-2]
SiO2	51.26	50.90	50.81	51.63	51.42	50.99	51.57	51.54	51.96	51.05	51.87	51.42	51.79	51.76	51.55	50.01	51.26	53.02	53.52
TiO2	0.83	0.66	1.00	0.86	0.80	0.75	0.85	0.73	0.66	0.80	0.89	0.79	0.83	1.03	1.03	0.87	0.85	0.68	0.69
Al2O3	3.44	3.03	3.60	3.13	3.29	2.97	3.18	3.05	2.85	3.22	2.68	3.11	3.07	3.04	3.13	2.72	3.06	2.60	2.68
V2O3																			
Cr2O3	0.41	0.15	0.34	0.20	0.30	0.23	0.13	0.12	0.52	0.36	0.07	0.14	0.03	0.04	0.05	0.09	0.10	0.04	0.03
MgO	15.55	15.15	14.49	14.77	14.58	14.48	14.37	14.71	14.79	14.49	14.89	14.96	14.72	14.84	15.15	14.67	14.72	15.24	15.09
CaO	19.60	21.50	21.56	22.23	21.74	22.33	22.20	22.36	22.28	22.45	22.40	22.04	22.44	21.63	21.29	22.59	22.38	21.81	21.48
MnO	0.25	0.21	0.26	0.21	0.17	0.19	0.17	0.18	0.18	0.22	0.18	0.19	0.22	0.26	0.21	0.27	0.26	0.23	0.22
FeO	7.94	6.96	6.99	6.89	6.54	6.51	6.60	6.63	6.56	6.36	7.18	7.03	6.85	7.15	7.56	6.74	7.18	6.59	6.49
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.53	0.44	0.51	0.47	0.58	0.55	0.56	0.48	0.60	0.55	0.40	0.58	0.52	0.52	0.53	0.52	0.49	0.35	0.47
K2O	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Total	**99.81**	**99.01**	**99.56**	**100.39**	**99.44**	**99.00**	**99.64**	**99.81**	**100.39**	**99.50**	**100.56**	**100.25**	**100.48**	**100.28**	**100.49**	**98.48**	**100.29**	**100.56**	**100.69**
T																			
Si	1.89	1.89	1.88	1.90	1.91	1.90	1.91	1.90	1.91	1.89	1.91	1.89	1.90	1.91	1.89	1.87	1.89	1.94	1.95
Al IV	0.11	0.11	0.12	0.10	0.09	0.10	0.09	0.10	0.09	0.11	0.09	0.11	0.10	0.09	0.11	0.12	0.11	0.06	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.03	0.04	0.03	0.05	0.03	0.05	0.04	0.03	0.03	0.02	0.02	0.03	0.04	0.03	0.00	0.02	0.05	0.07
Fe3+	0.04	0.07	0.05	0.05	0.03	0.06	0.03	0.05	0.05	0.06	0.05	0.08	0.06	0.04	0.06	0.12	0.08	0.00	0.00
Ti4+	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02
Cr3+	0.012	0.004	0.010	0.006	0.009	0.007	0.004	0.004	0.015	0.010	0.002	0.004	0.001	0.001	0.001	0.003	0.003	0.001	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.86	0.84	0.80	0.81	0.81	0.80	0.79	0.81	0.81	0.80	0.82	0.82	0.81	0.81	0.83	0.82	0.81	0.83	0.82
Fe2+	0.02	0.04	0.07	0.08	0.08	0.08	0.10	0.08	0.07	0.07	0.09	0.05	0.08	0.08	0.05	0.03	0.07	0.09	0.09
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.18	0.10	0.10	0.08	0.09	0.06	0.07	0.08	0.08	0.06	0.08	0.08	0.07	0.10	0.12	0.06	0.07	0.11	0.11
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.78	0.86	0.86	0.88	0.86	0.89	0.88	0.88	0.88	0.89	0.88	0.87	0.88	0.85	0.84	0.91	0.88	0.86	0.84
Na+	0.04	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.01**	**1.00**	**1.00**	**0.99**
Wo (%)	41	45	46	46	46	47	47	46	46	47	46	45	46	45	44	47	46	45	45
En (%)	**45**	**44**	**43**	**43**	**43**	**42**	**42**	**43**	**43**	**42**	**42**	**43**	**42**	**43**	**44**	**42**	**42**	**44**	**44**
Fs (%)	13	12	12	11	11	11	11	11	11	11	12	12	11	12	13	11	12	11	11
Q	1.83	1.84	1.83	1.85	1.84	1.83	1.85	1.85	1.83	1.83	1.87	1.82	1.84	1.85	1.84	1.81	1.83	1.89	1.86
J	0.08	0.06	0.07	0.07	0.08	0.08	0.08	0.07	0.08	0.08	0.06	0.08	0.07	0.07	0.08	0.08	0.07	0.05	0.07
Cr (ppm)	2831	1032	2345	1370	2050	1564	897	846	3554	2444	497	944	218	270	320	614	665	270	205
Ti (ppm)	4966	3972	6006	5135	4792	4496	5100	4361	3951	4803	5361	4723	5000	6171	6202	5229	5078	4096	4150
Mn (pmm)	1902	1660	1996	1598	1351	1442	1330	1375	1393	1675	1358	1447	1706	2021	1602	2116	2002	1796	1728
Mg#	**0.78**	**0.80**	**0.79**	**0.79**	**0.80**	**0.80**	**0.80**	**0.80**	**0.80**	**0.80**	**0.79**	**0.79**	**0.79**	**0.79**	**0.78**	**0.80**	**0.79**	**0.80**	**0.81**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	2	2	2	2	2	3	3	3	0	0	0	0	0	0	0	0	0	0	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I
CLASIF									Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore	Cpxnt- Ore
DESCRIP	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (C)	Cpx (C)	Cpx (B)	Cpx cum (C)	Cpx peq (B)	Cpx megacx (B)	Cpx inc Pl (C)	Cpx inc Pl (B)	Cpx peq (C)	Cpx peq (B)	Cpx megacx (C)	Cpx megacx (B)	Cpx megacx 1 (C)	Cpx megacx 1 (M)	Cpx megacx 1 (B 1)
SAMPLE	CNT-1	CNT-1	CNT-1	CNT-1	CNT-1	CNT-30	CNT-30	CNT-30	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-B2	FG-6-B2	FG-6-B2
Label	1501 [1-3]	1507 [2-1]	1508 [2-2]	1509 [2-3]	1514 [3-3]	1568 [2-5]	1569 [2-6]	1578 [6-3]	702 (3_2)	703 (4_1)	710 (2_3)	711 (2_4)	712 (3_1)	713 (3_2)	714 (4_1)	715 (4_2)	716 (1_1)	717 (1_2)	718 (1_3)
SiO2	53.47	53.13	53.32	52.86	53.60	52.62	52.63	52.11	52.96	52.82	51.40	50.88	51.07	50.96	51.53	51.66	51.52	52.05	52.16
TiO2	0.75	0.63	0.70	0.74	0.73	0.76	0.68	0.91	0.81	0.86	0.88	0.89	0.87	0.77	0.79	0.75	0.94	0.77	0.64
Al2O3	2.69	2.60	2.70	2.73	2.71	2.77	2.91	2.92	3.25	3.00	3.18	3.00	3.42	3.02	3.19	3.18	2.99	3.17	2.63
V2O3																			
Cr2O3	0.00	0.00	0.08	0.03	0.02	0.01	0.04	0.03	0.13	0.07	0.17	0.16	0.15	0.14	0.06	0.10	0.18	0.06	0.16
MgO	14.98	14.92	14.98	15.17	15.04	14.82	14.27	14.87	14.97	14.65	14.77	14.13	14.80	14.78	14.76	15.42	15.03	15.61	14.71
CaO	22.35	22.61	22.42	21.49	22.12	20.06	21.44	20.49	21.41	22.61	21.42	23.34	22.43	23.42	22.43	21.46	20.31	18.76	20.99
MnO	0.22	0.17	0.13	0.20	0.16	0.23	0.21	0.21	0.24	0.10	0.18	0.23	0.21	0.20	0.20	0.21	0.15	0.21	0.25
FeO	6.13	6.84	6.26	6.75	6.22	7.94	7.46	7.70	6.87	6.92	7.38	7.46	6.39	6.65	7.33	6.26	7.85	9.38	7.24
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
ZnO																			
Na2O	0.45	0.41	0.41	0.41	0.41	0.39	0.44	0.44	0.33	0.45	0.52	0.31	0.44	0.32	0.42	0.46	0.47	0.36	0.44
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00
Total	101.03	101.31	101.00	100.39	101.01	99.60	100.07	99.69	100.98	101.48	99.89	100.42	99.78	100.24	100.72	99.51	99.44	100.38	99.21
T																			
Si	1.95	1.94	1.94	1.94	1.95	1.95	1.94	1.93	1.93	1.92	1.90	1.88	1.89	1.88	1.89	1.91	1.91	1.92	1.94
Al IV	0.05	0.06	0.06	0.06	0.05	0.05	0.06	0.07	0.07	0.08	0.10	0.12	0.11	0.12	0.11	0.09	0.09	0.08	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.06	0.05	0.06	0.06	0.07	0.07	0.07	0.06	0.07	0.05	0.04	0.01	0.03	0.01	0.03	0.05	0.04	0.06	0.06
Fe3+	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.08	0.06	0.09	0.07	0.04	0.02	0.01	0.00
Ti4+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02
Cr3+	0.000	0.000	0.002	0.001	0.000	0.000	0.001	0.001	0.004	0.002	0.005	0.005	0.004	0.004	0.002	0.003	0.005	0.002	0.005
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.81	0.81	0.81	0.83	0.82	0.82	0.79	0.82	0.81	0.80	0.81	0.78	0.81	0.81	0.81	0.85	0.83	0.86	0.82
Fe2+	0.10	0.11	0.11	0.09	0.10	0.09	0.13	0.09	0.09	0.12	0.07	0.10	0.06	0.06	0.07	0.05	0.07	0.06	0.11
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.08	0.08	0.08	0.12	0.09	0.15	0.10	0.14	0.12	0.08	0.11	0.05	0.07	0.05	0.08	0.11	0.15	0.23	0.12
Mn2+	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Ca2+	0.87	0.88	0.88	0.84	0.86	0.80	0.85	0.81	0.84	0.88	0.85	0.92	0.89	0.92	0.88	0.85	0.81	0.74	0.84
Na+	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.03
TOTAL M2	0.99	1.00	0.99	1.00	0.99	0.98	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	46	46	46	45	46	43	45	43	45	47	45	48	47	47	46	45	43	39	44
En (%)	43	43	43	44	44	44	42	44	44	42	43	40	43	42	42	45	44	45	43
Fs (%)	10	11	10	11	10	14	13	13	12	11	12	12	11	11	12	11	13	16	12
Q	1.87	1.89	1.88	1.88	1.87	1.86	1.86	1.87	1.86	1.88	1.84	1.85	1.84	1.84	1.84	1.85	1.87	1.88	1.88
J	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.06	0.07	0.04	0.06	0.05	0.06	0.07	0.07	0.05	0.06
Cr (ppm)	1	1	564	230	116	77	243	218	899	488	1180	1119	1046	959	398	685	1227	419	1118
Ti (ppm)	4500	3791	4188	4454	4388	4569	4103	5428	4867	5138	5273	5307	5190	4603	4750	4494	5645	4628	3809
Mn (pmm)	1671	1327	968	1563	1260	1743	1633	1655	1873	798	1395	1804	1622	1510	1569	1652	1171	1625	1956
Mg#	0.81	0.80	0.81	0.80	0.81	0.77	0.77	0.77	0.80	0.79	0.78	0.77	0.80	0.80	0.78	0.81	0.77	0.75	0.78

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I
CLASIF	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt			
DESCRIP	Cpx megacx 1 (B2)	Cpx megacx 2 (C)	Cpx megacx 2 (M)	Cpx megacx 2 (B)	Cpx (C)	Cpx_alt_rim (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx cum (C)	Cpx cum (B)	Cpx (C)
SAMPLE	FG-6-B2	FG-6-B2	FG-6-B2	FG-6-B2	FG-6-A1	FG-6-A1	FG-8	FG-8	FG-8	FG-8	FG-8	FG-8	FG-8	FG-8	FG-8	FG-8	CNT-10	CNT-10	CNT-10
Label	720 (2_1)	723 (3_1)	724 (3_2)	725 (4_1)	2519 [2-3]	2520 [2-4]	2039 [1-3]	2040 [1-4]	2043 [1-3]	2044 [1-4]	2046 [3-3]	2047 [3-4]	2050 [4-3]	2051[4-4]	2054 [5-3]	2055 [5-4]	1544 [6-1]	1545 [6-2]	1547 [7-1]
SiO2	51.63	52.49	51.51	53.03	52.50	52.83	52.93	51.11	51.81	52.53	52.94	53.18	52.10	53.48	52.46	52.14	50.28	52.43	52.73
TiO2	0.71	0.71	0.97	0.63	0.85	0.65	0.73	0.91	0.84	0.62	0.69	0.74	0.92	0.67	0.62	0.76	0.89	0.90	0.60
Al2O3	2.72	2.57	3.41	2.62	2.94	2.66	2.77	3.11	3.19	2.83	2.66	2.57	3.20	2.69	2.73	2.87	4.36	3.31	2.95
V2O3																			
Cr2O3	0.11	0.16	0.10	0.09	0.06	0.16	0.11	0.14	0.13	0.18	0.16	0.08	0.10	0.11	0.17	0.09	1.32	0.24	0.24
MgO	14.37	14.80	14.52	14.76	14.82	15.20	15.04	14.64	15.43	14.96	16.37	15.11	15.18	15.55	16.62	14.60	14.72	14.56	16.01
CaO	21.83	22.04	21.51	22.75	21.13	21.64	21.42	20.74	20.17	22.31	19.10	21.06	20.49	20.78	16.83	21.52	21.52	21.39	18.72
MnO	0.18	0.13	0.17	0.20	0.16	0.20	0.17	0.16	0.24	0.16	0.20	0.24	0.21	0.21	0.25	0.21	0.18	0.26	0.22
FeO	7.02	6.60	6.81	6.54	6.85	5.80	6.87	7.60	7.22	6.24	8.42	6.92	7.88	7.36	9.33	7.06	6.28	6.66	8.22
NiO					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.46	0.32	0.44	0.38	0.38	0.33	0.45	0.46	0.48	0.40	0.52	0.45	0.49	0.49	0.37	0.52	0.47	0.48	0.45
K2O	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Total	99.03	99.83	99.43	101.01	99.70	99.47	100.48	98.86	99.49	100.21	101.04	100.34	100.56	101.34	99.37	99.77	100.02	100.24	100.14
T																			
Si	1.93	1.94	1.91	1.94	1.94	1.95	1.94	1.91	1.92	1.93	1.93	1.95	1.91	1.94	1.94	1.93	1.85	1.93	1.94
Al IV	0.07	0.06	0.09	0.06	0.06	0.05	0.06	0.09	0.08	0.07	0.07	0.05	0.09	0.06	0.06	0.07	0.15	0.07	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.05	0.05	0.06	0.05	0.07	0.06	0.06	0.05	0.06	0.05	0.04	0.06	0.05	0.06	0.06	0.05	0.04	0.07	0.07
Fe3+	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.01	0.05	0.00	0.00
Ti4+	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Cr3+	0.003	0.005	0.003	0.002	0.002	0.005	0.003	0.004	0.004	0.005	0.005	0.002	0.003	0.003	0.005	0.003	0.039	0.007	0.007
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.80	0.82	0.80	0.80	0.82	0.84	0.82	0.82	0.85	0.82	0.89	0.83	0.83	0.84	0.92	0.81	0.81	0.80	0.88
Fe2+	0.11	0.11	0.10	0.12	0.09	0.08	0.10	0.09	0.06	0.10	0.02	0.09	0.07	0.08	0.00	0.11	0.04	0.10	0.03
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.09	0.11	0.08	0.12	0.10	0.12	0.13	0.16	0.09	0.21	0.12	0.15	0.15	0.29	0.10	0.11	0.11	0.22
Mn2+	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.87	0.87	0.86	0.89	0.84	0.85	0.84	0.83	0.80	0.88	0.75	0.83	0.81	0.81	0.67	0.85	0.85	0.84	0.74
Na+	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
TOTAL M2	1.00	0.99	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	0.99
Wo (%)	46	46	46	47	45	46	45	44	42	46	39	44	43	43	35	45	46	45	39
En (%)	42	43	43	42	44	45	44	43	45	43	47	44	44	45	49	43	44	43	47
Fs (%)	12	11	12	11	12	10	11	13	12	10	14	12	13	12	16	12	11	11	14
Q	1.87	1.89	1.87	1.89	1.86	1.87	1.87	1.86	1.86	1.89	1.87	1.87	1.86	1.88	1.87	1.87	1.81	1.85	1.87
J	0.07	0.05	0.06	0.05	0.06	0.05	0.06	0.07	0.07	0.06	0.07	0.06	0.07	0.07	0.05	0.08	0.07	0.07	0.06
Cr (ppm)	771	1076	650	588	424	1080	719	948	860	1238	1102	528	681	731	1157	642	9035	1653	1608
Ti (ppm)	4246	4270	5838	3765	5092	3902	4355	5448	5009	3711	4117	4411	5489	4021	3725	4540	5315	5389	3623
Mn (pmm)	1366	994	1281	1569	1252	1540	1323	1252	1887	1217	1570	1832	1651	1608	1907	1659	1362	2028	1675
Mg#	0.78	0.80	0.79	0.80	0.79	0.82	0.80	0.77	0.79	0.81	0.78	0.80	0.77	0.79	0.76	0.79	0.81	0.80	0.78

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Px Gb I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
CLASIF		Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim							
DESCRIP	Cpx (B)	Cpx cum (C)	Cpx cum (C)	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (B)	Cpx bleb (C)	Cpx bleb (C)	Cpx cum (C)	Cpx cum (C)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx (C)	Cpx (B)	Cpx cum (C)
SAMPLE	CNT-10	FG-5	FG-5	FG-5	FG-5	FG-5	FG-4	FG-4	FG-4	FG-4	FG-4	FG-4	CNT-11	CNT-11	CNT-11	CNT-11	MB-4	MB-4	MB-4
Label	1548 [7-2]	1965 [3-8]	1974 [6-3]	1974A [6-3A]	1980 [7-3]	1981[7-4]	1894 [1-5]	1895 [1-6]	1896 [1-7]	1901[2-89]	1906 [3-5]	1907 [3-6]	1626 [1-3]	1627 [1-4]	1634 [2-3]	1635 [2-4]	1846 [1-5]	1847 [1-6]	1853 [2-4]
SiO2	54.15	51.29	51.20	52.61	52.46	52.28	51.78	52.40	52.07	52.49	51.98	52.35	51.63	51.20	51.94	52.21	51.67	51.59	53.90
TiO2	0.32	0.92	0.93	0.54	0.68	0.83	0.96	0.94	0.94	1.07	0.93	0.82	0.92	0.82	1.05	0.81	0.72	0.67	0.14
Al2O3	1.88	3.05	3.18	2.41	2.75	3.24	3.21	3.36	3.37	3.27	3.42	3.40	2.83	3.13	3.18	2.98	2.79	2.80	0.70
V2O3																			
Cr2O3	0.00	0.00	0.00	0.00	0.05	0.01	0.01	0.00	0.03	0.02	0.01	0.04	0.00	0.00	0.00	0.00	0.07	0.14	0.10
MgO	15.21	15.04	15.19	15.32	14.98	14.97	15.69	14.73	14.53	14.80	14.65	14.84	14.93	14.46	16.03	14.81	15.41	15.12	15.80
CaO	21.66	20.11	19.34	21.40	21.28	20.61	18.80	21.06	20.85	21.38	19.95	20.13	20.86	21.56	18.91	21.24	21.34	21.66	23.86
MnO	0.19	0.16	0.23	0.20	0.20	0.20	0.20	0.19	0.18	0.25	0.19	0.20	0.21	0.24	0.29	0.21	0.20	0.15	0.18
FeO	6.76	7.68	8.11	7.12	7.18	7.49	8.47	7.21	7.44	7.05	7.89	7.61	7.23	6.82	8.06	7.70	7.30	6.66	5.37
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.38	0.50	0.45	0.44	0.43	0.47	0.37	0.54	0.45	0.48	0.46	0.42	0.45	0.42	0.40	0.41	0.41	0.41	0.19
K2O	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Total	100.55	98.75	98.63	100.03	100.01	100.11	99.50	100.42	99.85	100.81	99.46	99.81	99.06	98.63	99.86	100.37	99.92	99.19	100.25
T																			
Si	1.98	1.92	1.92	1.94	1.94	1.93	1.92	1.92	1.92	1.92	1.93	1.93	1.92	1.92	1.92	1.92	1.91	1.92	1.98
Al IV	0.02	0.08	0.08	0.06	0.06	0.07	0.08	0.08	0.08	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.09	0.08	0.02
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.06	0.05	0.06	0.04	0.06	0.07	0.06	0.07	0.07	0.06	0.08	0.08	0.05	0.05	0.05	0.05	0.03	0.04	0.01
Fe3+	0.00	0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.06	0.04	0.02
Ti4+	0.01	0.03	0.03	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.00
Cr3+	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.000	0.002	0.004	0.003
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.84	0.85	0.84	0.82	0.82	0.87	0.81	0.80	0.81	0.81	0.82	0.83	0.81	0.88	0.81	0.85	0.84	0.86
Fe2+	0.10	0.07	0.06	0.08	0.10	0.09	0.05	0.10	0.10	0.10	0.09	0.08	0.09	0.10	0.03	0.10	0.05	0.07	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.10	0.15	0.18	0.12	0.12	0.14	0.22	0.12	0.13	0.12	0.16	0.15	0.13	0.10	0.21	0.13	0.12	0.10	0.04
Mn2+	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01
Ca2+	0.85	0.80	0.78	0.84	0.84	0.81	0.75	0.83	0.83	0.84	0.79	0.80	0.83	0.86	0.75	0.84	0.84	0.86	0.94
Na+	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01
TOTAL M2	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	45	43	41	44	44	43	40	44	44	45	43	43	44	46	40	44	44	45	48
En (%)	44	44	45	44	44	44	46	43	43	43	44	44	44	43	47	43	44	44	44
Fs (%)	11	13	14	12	12	13	14	12	13	12	14	13	12	12	14	13	12	11	9
Q	1.88	1.86	1.87	1.88	1.89	1.87	1.88	1.86	1.86	1.86	1.85	1.85	1.88	1.87	1.88	1.88	1.86	1.87	1.95
J	0.05	0.07	0.07	0.06	0.06	0.07	0.05	0.08	0.06	0.07	0.07	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.03
Cr (ppm)	1	1	1	1	335	77	77	13	205	167	38	244	1	1	1	1	509	969	655
Ti (ppm)	1917	5512	5605	3215	4087	4963	5756	5657	5656	6392	5565	4937	5534	4917	6299	4849	4318	3991	826
Mn (pmm)	1478	1223	1791	1519	1545	1555	1549	1454	1364	1967	1487	1538	1605	1854	2247	1643	1523	1199	1431
Mg#	0.80	0.78	0.77	0.79	0.79	0.78	0.77	0.78	0.78	0.79	0.77	0.78	0.79	0.79	0.78	0.77	0.79	0.80	0.84

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	2	3	3	3	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog l	Ol Leucog l	Ol Leucog l	Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb l-Ol Leucog l	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF																			
DESCRIP	Cpx cum (B)	Cpx_O_Ol (C)	Cpx_O_Ol (C)	Cpx_O_Ol (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx bleb (C)	Cpx (C)	Cpx bleb (C)	Cpx cum inc Pl (C)	Cpx Poik (C)	Cpx Poik (B)	Cpx inc Pl (C)	Cpx inc Pl (C)	Cpx inc Pl (C)	Cpx inc Pl (C)	Cpx Poik (C)
SAMPLE	MB-4	CNT-7	CNT-7	CNT-7	MB-1	MB-1	MB-1	MB-1	MB-1	MB-1	MB-1	FG-3	FG-3	FG-3	FG-3	FG-3	FG-3	FG-3	CNT-12
Label	1854 [2-5]	1612 [2-5]	1618 [3-5]	1619 [3-6]	1857 [2-11]	1858 [2-12]	1863 [3-15]	1864 [3-16]	1867 [3-19]	1870 [4-5]	1871[4-6]	1941[3-5]	1942 [3-6]	1943 [3-7]	1946 [4-3]	1947 [4-4]	1948 [4-5]	1949 [4-6]	1640 [2-4]
SiO2	51.72	52.42	52.55	53.18	51.10	50.71	50.83	50.80	51.54	51.91	51.53	51.38	51.14	52.22	51.23	50.83	50.93	50.76	52.02
TiO2	0.70	0.59	0.71	0.37	1.06	0.89	0.82	0.77	1.05	0.89	0.96	0.91	1.14	0.83	0.82	1.28	1.24	1.46	0.69
Al2O3	2.85	3.32	3.06	2.62	3.22	3.36	3.08	3.04	3.41	3.36	3.42	3.41	3.50	3.33	3.44	3.71	3.64	3.79	3.06
V2O3																			
Cr2O3	0.10	0.04	0.00	0.01	0.27	0.25	0.30	0.17	0.35	0.35	0.25	0.08	0.05	0.07	0.06	0.07	0.15	0.00	0.30
MgO	15.31	15.21	15.21	15.36	15.05	14.33	14.90	15.03	14.81	14.68	14.81	14.91	15.02	14.90	14.87	15.16	14.70	14.33	14.75
CaO	22.05	22.51	22.70	23.36	21.70	22.29	22.12	21.85	20.65	21.40	21.25	20.35	20.41	21.46	20.17	19.77	20.45	21.17	22.41
MnO	0.23	0.17	0.19	0.11	0.22	0.16	0.18	0.18	0.19	0.18	0.16	0.17	0.20	0.16	0.20	0.17	0.16	0.16	0.20
FeO	6.78	6.38	6.49	5.72	6.59	6.98	6.71	6.70	6.82	6.52	6.61	7.85	7.64	7.49	7.27	8.04	7.69	6.92	6.47
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00
ZnO																			
Na2O	0.47	0.44	0.48	0.33	0.57	0.45	0.47	0.42	0.50	0.50	0.47	0.45	0.46	0.43	0.45	0.41	0.00	0.50	0.47
K2O	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**100.21**	**101.08**	**101.38**	**101.06**	**99.79**	**99.42**	**99.41**	**98.95**	**99.31**	**99.80**	**99.45**	**99.50**	**99.57**	**100.89**	**98.50**	**99.44**	**98.97**	**99.12**	**100.37**
T																			
Si	1.90	1.91	1.91	1.93	1.89	1.88	1.88	1.89	1.91	1.92	1.91	1.91	1.90	1.91	1.92	1.89	1.90	1.89	1.91
Al IV	0.10	0.09	0.09	0.07	0.11	0.12	0.12	0.11	0.09	0.08	0.09	0.09	0.10	0.09	0.08	0.11	0.10	0.11	0.09
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.02	0.05	0.04	0.05	0.03	0.03	0.02	0.02	0.06	0.06	0.06	0.06	0.05	0.06	0.07	0.05	0.06	0.06	0.04
Fe3+	0.07	0.04	0.05	0.02	0.06	0.06	0.08	0.07	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.02	0.00	0.00	0.03
Ti4+	0.02	0.02	0.02	0.01	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.02	0.02	0.04	0.03	0.04	0.02
Cr3+	0.003	0.001	0.000	0.000	0.008	0.007	0.009	0.005	0.010	0.010	0.007	0.002	0.001	0.002	0.002	0.002	0.004	0.000	0.009
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.84	0.83	0.82	0.83	0.83	0.79	0.82	0.83	0.82	0.81	0.82	0.83	0.83	0.81	0.83	0.84	0.82	0.80	0.81
Fe2+	0.05	0.07	0.07	0.09	0.05	0.08	0.05	0.05	0.08	0.09	0.08	0.08	0.06	0.09	0.08	0.05	0.08	0.10	0.09
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.09	0.08	0.06	0.09	0.07	0.08	0.09	0.13	0.11	0.12	0.15	0.15	0.12	0.15	0.18	0.16	0.11	0.08
Mn2+	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.87	0.88	0.88	0.91	0.86	0.89	0.88	0.87	0.82	0.85	0.84	0.81	0.81	0.84	0.81	0.79	0.82	0.85	0.88
Na+	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.04	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.98**	**1.00**	**1.00**
Wo (%)	45	46	46	47	45	47	46	45	44	45	45	43	43	45	43	42	43	45	47
En (%)	**44**	**43**	**43**	**43**	**44**	**42**	**43**	**43**	**44**	**43**	**44**	**44**	**44**	**43**	**44**	**45**	**43**	**43**	**43**
Fs (%)	11	10	11	9	11	12	11	11	12	11	11	13	13	12	12	14	13	12	11
Q	1.84	1.86	1.85	1.89	1.83	1.84	1.83	1.84	1.85	1.86	1.86	1.86	1.86	1.87	1.87	1.86	1.88	1.86	1.86
J	0.07	0.06	0.07	0.05	0.08	0.06	0.07	0.06	0.07	0.07	0.07	0.06	0.07	0.06	0.07	0.06	0.00	0.07	0.07
Cr (ppm)	677	244	1	77	1870	1690	2077	1167	2415	2384	1700	564	333	450	398	461	1002	1	2025
Ti (ppm)	4183	3509	4242	2218	6337	5325	4912	4590	6319	5350	5733	5449	6842	5005	4901	7657	7408	8765	4154
Mn (pmm)	1787	1317	1488	857	1700	1261	1398	1364	1452	1426	1257	1293	1580	1275	1542	1303	1265	1236	1531
Mg#	**0.80**	**0.81**	**0.81**	**0.83**	**0.80**	**0.79**	**0.80**	**0.80**	**0.79**	**0.80**	**0.80**	**0.77**	**0.78**	**0.78**	**0.78**	**0.77**	**0.77**	**0.79**	**0.80**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF		Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb	Porh Gb										
DESCRIP	Cpx Poik (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (B)	Cpx intc (C)	Cpx intc (B)	Cpx (C)	Cpx (C)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)
SAMPLE	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-12	CNT-14	CNT-14	CNT-32	CNT-32	CNT-32	CNT-32	CNT-6A	CNT-6A	CNT-6A	CNT-6A
Label	1641[2-5]	1647 [3-1]	1648 [3-2]	1649 [3-3]	1650 [3-4]	1651[4-1]	1652 [4-2]	1653 [4-3]	1654 [4-4]	1713A [3-2]	1714 [3-3]	1763 [2-1]	1764 [2-2]	1767 [3-1]	1768 [3-2]	1584 [1-4]	1585 [1-5]	1592 [2-4]	1593 [2-5]
SiO2	52.15	51.62	51.45	51.97	51.16	52.66	52.48	52.29	51.56	52.17	52.26	51.97	51.41	51.86	51.55	51.80	51.96	52.50	52.44
TiO2	0.68	0.83	0.99	0.87	0.72	0.59	0.50	0.66	0.68	0.75	0.84	0.77	0.88	0.87	0.92	0.83	0.83	0.86	0.76
Al2O3	2.84	3.07	3.48	2.93	3.19	2.42	2.52	3.04	3.09	2.80	3.39	3.05	3.53	2.89	3.12	3.16	3.24	2.91	2.97
V2O3																			
Cr2O3	0.11	0.21	0.30	0.19	0.18	0.09	0.11	0.19	0.25	0.26	0.23	0.00	0.33	0.18	0.16	0.39	0.23	0.24	0.21
MgO	15.01	17.38	14.62	14.91	14.80	15.08	15.19	15.24	14.72	14.71	15.43	14.72	14.72	14.86	14.70	14.77	15.36	15.69	15.20
CaO	22.97	17.20	22.10	22.28	22.56	22.36	22.22	22.29	22.46	21.47	20.95	21.52	21.03	21.56	21.39	21.69	20.57	20.97	22.10
MnO	0.17	0.23	0.25	0.15	0.20	0.24	0.25	0.21	0.20	0.16	0.17	0.00	0.18	0.17	0.14	0.19	0.18	0.16	0.18
FeO	6.27	7.79	6.86	6.75	6.62	6.45	6.75	6.86	6.59	6.17	7.24	7.04	7.00	6.85	7.00	6.22	6.91	6.23	6.12
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.40	0.42	0.50	0.55	0.48	0.43	0.45	0.48	0.48	0.48	0.38	0.53	0.44	0.55	0.50	0.51	0.45	0.45	0.52
K2O	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.01
Total	100.60	98.76	100.54	100.61	99.90	100.31	100.47	101.26	100.03	98.97	100.88	99.59	99.52	99.79	99.48	99.57	99.73	100.01	100.49
T																			
Si	1.91	1.91	1.89	1.90	1.89	1.93	1.92	1.90	1.90	1.94	1.91	1.92	1.91	1.92	1.91	1.92	1.92	1.93	1.92
Al IV	0.09	0.09	0.11	0.10	0.11	0.07	0.08	0.10	0.10	0.06	0.09	0.08	0.09	0.08	0.09	0.08	0.08	0.07	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.03	0.05	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.06	0.06	0.06	0.06	0.04	0.05	0.05	0.06	0.05	0.05
Fe3+	0.05	0.02	0.04	0.05	0.08	0.02	0.04	0.06	0.05	0.00	0.01	0.01	0.00	0.03	0.02	0.01	0.00	0.00	0.02
Ti4+	0.02	0.02	0.03	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02
Cr3+	0.003	0.006	0.009	0.006	0.005	0.003	0.003	0.005	0.007	0.008	0.007	0.000	0.010	0.005	0.005	0.011	0.007	0.007	0.006
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.82	0.91	0.80	0.81	0.81	0.83	0.83	0.83	0.81	0.82	0.84	0.81	0.81	0.82	0.81	0.81	0.85	0.86	0.83
Fe2+	0.08	0.00	0.08	0.07	0.06	0.09	0.08	0.06	0.08	0.09	0.06	0.10	0.09	0.08	0.09	0.09	0.06	0.06	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.06	0.23	0.09	0.08	0.07	0.08	0.09	0.09	0.07	0.10	0.15	0.11	0.13	0.10	0.11	0.10	0.15	0.14	0.09
Mn2+	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01
Ca2+	0.90	0.68	0.87	0.87	0.89	0.88	0.87	0.87	0.89	0.86	0.82	0.85	0.84	0.85	0.85	0.86	0.81	0.83	0.87
Na+	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.04
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	47	36	46	46	47	46	46	45	47	46	43	45	45	45	45	46	43	44	46
En (%)	43	51	42	43	42	43	43	43	42	44	45	43	43	43	43	43	45	46	44
Fs (%)	10	13	12	11	11	11	11	11	11	11	12	12	12	11	12	11	12	10	10
Q	1.86	1.87	1.84	1.85	1.83	1.88	1.87	1.85	1.84	1.86	1.87	1.87	1.86	1.86	1.86	1.86	1.87	1.88	1.86
J	0.06	0.06	0.07	0.08	0.07	0.06	0.06	0.07	0.07	0.07	0.05	0.08	0.06	0.08	0.07	0.07	0.06	0.06	0.07
Cr (ppm)	731	1464	2049	1307	1243	603	769	1281	1679	1790	1581	1	2246	1215	1100	2649	1583	1641	1451
Ti (ppm)	4099	4997	5910	5216	4295	3566	2992	3930	4057	4479	5027	4599	5279	5211	5528	4996	4946	5172	4553
Mn (pmm)	1329	1773	1937	1160	1533	1859	1949	1599	1578	1202	1279		1358	1294	1080	1506	1404	1217	1387
Mg#	0.81	0.80	0.79	0.80	0.80	0.81	0.80	0.80	0.80	0.81	0.79	0.79	0.79	0.79	0.79	0.81	0.80	0.82	0.82

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	0	0	0	0	1	1	1	1	1	2	2	2	2	1	1	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp
UNIT	Px Gb II	Px Gb II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb III	Px Gb III	Px Gb III	Px Gb III
CLASIF			Trcot	Trcot	Trcot	Trcot													
DESCRIP	Cpx (C)	Cpx (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (C)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)
SAMPLE	CNT-6A	CNT-6A	MB-16	MB-16	MB-16	MB-16	CNT-13	CNT-13	CNT-13	CNT-13	CNT-13	CNT-31	CNT-31	CNT-31	CNT-31	CNT-33	CNT-33	CNT-33	CNT-33
Label	1596 [3-1]	1597 [3-2]	2264 [2-1]	2265 [2-2]	2275 [4-5]	2276 [4-6]	2059A [2-16A]	2060B [2-17A]	2067[5-1]	2068[5-2]	2069[5-3]	2021[3-1]	2025 [3-5]	2026 [3-6]	2031[2-1]	2077 [2-1]	2078 [2-2]	2079 [2-3]	2081[3-1]
SiO2	51.79	52.46	52.30	52.30	52.55	51.85	52.12	53.84	51.94	52.23	52.17	51.78	51.78	51.97	51.62	52.82	52.38	51.60	52.50
TiO2	0.76	0.97	0.67	0.91	0.53	0.82	0.88	0.35	0.95	0.78	0.66	0.91	0.89	0.77	0.61	0.71	0.76	0.80	0.44
Al2O3	3.19	3.46	3.09	3.34	2.59	3.24	3.12	1.88	3.17	2.78	3.12	3.21	3.06	3.14	3.16	2.85	3.00	3.19	2.56
V2O3																			
Cr2O3	0.31	0.18	0.60	0.35	0.29	0.38	0.15	0.09	0.08	0.09	0.08	0.10	0.25	0.13	0.14	0.24	0.12	0.22	0.11
MgO	15.02	14.84	16.50	15.37	17.29	14.96	14.88	15.66	16.25	15.04	14.70	15.42	15.39	14.96	14.76	15.91	16.19	14.69	15.03
CaO	21.48	22.08	19.89	21.42	18.12	21.19	21.10	21.07	18.04	21.49	21.49	20.02	20.14	21.13	21.77	20.00	20.64	22.16	21.28
MnO	0.22	0.21	0.15	0.11	0.12	0.14	0.17	0.22	0.19	0.24	0.22	0.19	0.20	0.25	0.18	0.20	0.17	0.20	0.16
FeO	6.55	6.41	6.53	5.52	6.69	5.52	6.99	6.00	8.27	6.30	6.45	7.08	7.80	6.78	6.51	7.20	7.19	6.86	6.49
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.48	0.51	0.36	0.42	0.38	0.40	0.00	0.44	0.38	0.46	0.47	0.44	0.49	0.45	0.46	0.53	0.44	0.49	0.42
K2O	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
Total	99.80	101.11	100.08	99.74	98.56	98.50	99.41	99.55	99.29	99.42	99.37	99.15	99.99	99.58	99.21	100.46	100.89	100.21	98.98
T																			
Si	1.91	1.91	1.92	1.92	1.95	1.93	1.93	1.98	1.92	1.93	1.93	1.92	1.91	1.92	1.92	1.93	1.91	1.90	1.95
Al IV	0.09	0.09	0.08	0.08	0.05	0.07	0.07	0.02	0.08	0.07	0.07	0.08	0.09	0.08	0.08	0.07	0.09	0.10	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.05	0.06	0.05	0.07	0.06	0.07	0.07	0.06	0.06	0.06	0.07	0.06	0.04	0.06	0.05	0.06	0.04	0.04	0.06
Fe3+	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.04	0.05	0.00
Ti4+	0.02	0.03	0.02	0.03	0.01	0.02	0.02	0.01	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01
Cr3+	0.009	0.005	0.017	0.010	0.009	0.011	0.004	0.003	0.002	0.003	0.002	0.003	0.007	0.004	0.004	0.007	0.004	0.006	0.003
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.81	0.90	0.84	0.92	0.83	0.82	0.86	0.90	0.83	0.81	0.85	0.85	0.83	0.82	0.87	0.88	0.81	0.83
Fe2+	0.07	0.10	0.01	0.06	0.00	0.06	0.08	0.07	0.01	0.09	0.10	0.06	0.05	0.09	0.08	0.05	0.02	0.08	0.09
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.11	0.09	0.19	0.11	0.21	0.11	0.13	0.12	0.24	0.11	0.10	0.16	0.16	0.12	0.09	0.17	0.16	0.08	0.11
Mn2+	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.85	0.86	0.78	0.84	0.72	0.84	0.84	0.83	0.72	0.85	0.85	0.80	0.80	0.84	0.87	0.78	0.81	0.87	0.85
Na+	0.03	0.04	0.03	0.03	0.03	0.03	0.00	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
TOTAL M2	1.00	1.00	1.00	0.99	0.99	0.99	0.98	0.98	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Wo (%)	45	46	41	45	38	46	45	44	38	45	46	42	42	45	46	42	42	46	45
En (%)	44	43	48	45	51	45	44	46	48	44	43	46	45	44	43	46	46	42	44
Fs (%)	11	11	11	9	11	10	12	10	14	11	11	12	13	12	11	12	12	11	11
Q	1.86	1.86	1.88	1.86	1.88	1.85	1.88	1.87	1.87	1.88	1.87	1.87	1.86	1.87	1.86	1.87	1.86	1.84	1.88
J	0.07	0.07	0.05	0.06	0.05	0.06	0.00	0.06	0.05	0.07	0.07	0.06	0.07	0.06	0.07	0.08	0.06	0.07	0.06
Cr (ppm)	2110	1223	4094	2409	2014	2577	1044	620	576	604	566	653	1743	900	937	1653	846	1503	758
Ti (ppm)	4530	5786	4025	5474	3199	4933	5268	2112	5725	4663	3982	5471	5313	4633	3658	4229	4529	4795	2631
Mn (pmm)	1685	1618	1144	870	932	1101	1278	1706	1481	1887	1708	1488	1540	1967	1391	1557	1341	1579	1264
Mg#	0.80	0.80	0.82	0.83	0.82	0.83	0.79	0.82	0.78	0.81	0.80	0.80	0.78	0.80	0.80	0.80	0.80	0.79	0.81

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	1	2	2	2	2	1	1	1	1	1	1	2	2	2	2	2	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF																		Transition	Transition
DESCRIP	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx micro inc Pl (C)	Cpx micro inc Pl (C)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx Poik (C)	Cpx Poik (B)	Cpx (C)	Cpx (B)	Cpx cum (C)	Cpx cum (C)	Cpx (C)	Cpx (B)
SAMPLE	CNT-33	CNT-36	CNT-36	CNT-36	CNT-36	CNT-34	CNT-34	CNT-34	CNT-34	CNT-34	CNT-34	CNT-35	CNT-35	CNT-35	CNT-35	CNT-35	CNT-35	CNT-4	CNT-4
Label	2082 [3-2]	2188 [2-9]	2189 [2-10]	2190 [3-1]	2191 [3-2]	2124A [1-5A]	2125A [1-6A]	2128 [2-3]	2129 [2-4]	2136 [4-1]	2137 [4-2]	2169 [1-4]	2170 [1-5]	2179 [5-5]	2180 [5-6]	2184 [6-1]	2185 [6-2]	2322 [1-1]	2323 [1-2]
SiO2	51.79	52.08	51.53	51.87	52.45	51.19	51.22	52.65	52.61	52.59	51.42	51.24	51.83	52.37	52.13	52.71	51.89	52.69	52.59
TiO2	0.75	0.80	0.85	0.90	0.71	1.23	1.22	0.87	0.59	0.73	0.81	0.74	0.59	0.75	0.83	0.63	0.80	0.72	0.72
Al2O3	3.28	3.20	3.00	3.24	3.14	3.56	3.62	2.83	2.93	2.96	3.29	3.17	2.79	3.20	3.42	2.85	3.42	3.14	3.02
V2O3																			
Cr2O3	0.25	0.22	0.27	0.31	0.25	0.22	0.18	0.25	0.33	0.18	0.34	0.39	0.17	0.15	0.24	0.15	0.28	0.21	0.20
MgO	14.88	15.23	15.02	15.13	15.06	15.23	15.28	16.04	15.60	16.69	15.15	14.94	16.27	15.15	14.92	15.00	14.88	15.09	15.07
CaO	21.43	22.20	22.02	21.84	21.70	21.94	21.91	21.10	22.58	19.76	21.89	21.59	20.15	21.51	21.35	22.46	22.23	21.17	21.38
MnO	0.17	0.17	0.14	0.19	0.16	0.15	0.11	0.15	0.16	0.13	0.12	0.19	0.20	0.20	0.20	0.16	0.13	0.16	0.18
FeO	6.65	6.26	6.43	7.15	6.22	5.76	5.68	6.02	5.58	7.22	5.62	6.73	6.30	7.00	6.95	6.46	6.60	6.48	6.56
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.56	0.64	0.48	0.51	0.54	0.51	0.51	0.46	0.43	0.39	0.47	0.43	0.40	0.52	0.39	0.48	0.44	0.47	0.48
K2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Total	**99.76**	**100.80**	**99.75**	**101.14**	**100.24**	**99.79**	**99.73**	**100.37**	**100.81**	**100.65**	**99.11**	**99.42**	**98.71**	**100.84**	**100.44**	**100.91**	**100.66**	**100.13**	**100.20**
T																			
Si	1.91	1.90	1.90	1.89	1.93	1.88	1.89	1.92	1.92	1.92	1.91	1.90	1.92	1.91	1.92	1.92	1.90	1.93	1.93
Al IV	0.09	0.10	0.10	0.11	0.07	0.12	0.11	0.08	0.08	0.08	0.09	0.10	0.08	0.09	0.08	0.08	0.10	0.07	0.07
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.05	0.04	0.03	0.03	0.06	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.05	0.05	0.06	0.05	0.05	0.07	0.06
Fe3+	0.02	0.06	0.04	0.06	0.01	0.04	0.04	0.01	0.03	0.02	0.02	0.04	0.02	0.03	0.00	0.02	0.03	0.00	0.00
Ti4+	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Cr3+	0.007	0.006	0.008	0.009	0.007	0.007	0.005	0.007	0.010	0.005	0.010	0.012	0.005	0.004	0.007	0.004	0.008	0.006	0.006
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.82	0.83	0.83	0.82	0.82	0.84	0.84	0.87	0.85	0.91	0.84	0.83	0.90	0.83	0.82	0.82	0.81	0.83	0.83
Fe2+	0.07	0.05	0.07	0.06	0.08	0.05	0.04	0.04	0.05	0.00	0.06	0.06	0.01	0.07	0.09	0.09	0.08	0.08	0.09
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.11	0.08	0.09	0.10	0.10	0.09	0.10	0.14	0.08	0.20	0.09	0.11	0.16	0.12	0.12	0.08	0.09	0.12	0.12
Mn2+	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01
Ca2+	0.85	0.87	0.87	0.85	0.85	0.87	0.86	0.83	0.88	0.77	0.87	0.86	0.80	0.84	0.84	0.88	0.87	0.83	0.84
Na+	0.04	0.05	0.03	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**
Wo (%)	45	46	46	45	46	46	46	44	46	41	46	45	42	45	45	46	46	45	45
En (%)	**44**	**44**	**43**	**43**	**44**	**44**	**45**	**46**	**45**	**48**	**44**	**43**	**47**	**44**	**44**	**43**	**43**	**44**	**44**
Fs (%)	11	10	11	12	10	10	9	10	9	12	9	11	11	12	12	11	11	11	11
Q	1.85	1.82	1.85	1.84	1.86	1.84	1.84	1.88	1.87	1.88	1.86	1.85	1.88	1.85	1.87	1.87	1.86	1.86	1.87
J	0.08	0.09	0.07	0.07	0.08	0.07	0.07	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.07	0.06	0.07	0.07
Cr (ppm)	1721	1481	1841	2094	1739	1533	1224	1737	2283	1255	2330	2684	1143	1028	1657	1055	1890	1418	1340
Ti (ppm)	4505	4773	5118	5395	4256	7373	7289	5199	3556	4366	4840	4418	3552	4475	4999	3763	4800	4325	4319
Mn (pmm)	1323	1315	1078	1471	1276	1156	830	1156	1207	1005	909	1490	1579	1511	1580	1234	987	1218	1406
Mg#	**0.80**	**0.81**	**0.81**	**0.79**	**0.81**	**0.82**	**0.83**	**0.83**	**0.83**	**0.80**	**0.83**	**0.80**	**0.82**	**0.79**	**0.79**	**0.81**	**0.80**	**0.81**	**0.80**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition											
DESCRIP	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx intc (C)	Cpx intc (B)	Cpx cum (C)	Cpx cum (C)	Cpx cum (C)	Cpx intc (C)	Cpx (C)	Cpx (B)	Cpx (C)	Cpx (B)	Cpx (C)
SAMPLE	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	MB-11	MB-11	MB-11	MB-11	MB-11	MB-11	MB-13	MB-13	CNT-5A	CNT-5A	CNT-5A
Label	2330 [2-1]	2331[2-2]	2347 [6-4]	2348 [6-5]	2354 [7-3]	2355 [7-4]	2361[8-4]	2362 [8-5]	2422 [1-3]	2423 [1-4]	2425 [1-6]	2430 [3-1]	2431[3-2]	2437 [3-8]	2526 [2-6]	2527 [2-7]	2381[3-9]	2382 [3-10]	2390 [4-7]
SiO2	51.99	52.34	52.07	53.15	52.84	52.44	52.62	52.33	51.36	51.22	51.26	51.97	51.74	52.25	51.83	51.48	51.61	52.02	51.92
TiO2	0.72	0.65	0.64	0.45	0.80	0.75	0.71	0.73	0.87	0.83	0.86	0.98	1.09	0.85	0.89	0.81	0.72	0.67	0.67
Al2O3	3.11	3.25	3.21	2.71	3.21	3.21	2.89	3.25	3.55	3.41	3.74	3.49	3.61	3.50	3.27	3.37	3.53	3.40	3.33
V2O3																			
Cr2O3	0.30	0.22	0.20	0.19	0.26	0.19	0.15	0.20	0.32	0.28	0.12	0.14	0.13	0.13	0.16	0.23	0.54	0.38	0.44
MgO	15.08	15.12	15.12	15.13	15.95	15.26	14.98	15.21	14.17	14.26	15.15	15.24	14.78	15.00	14.90	14.66	14.58	15.08	16.16
CaO	21.77	20.81	21.17	21.59	19.92	21.38	21.64	20.61	21.43	21.74	20.62	20.76	21.31	21.68	21.56	22.32	21.84	21.79	19.44
MnO	0.17	0.23	0.15	0.12	0.17	0.15	0.09	0.16	0.15	0.16	0.17	0.16	0.13	0.12	0.19	0.18	0.16	0.18	0.08
FeO	5.95	6.74	6.58	6.03	6.86	6.40	6.17	6.41	6.51	6.56	7.61	7.72	7.14	6.65	6.92	6.24	6.07	6.01	7.45
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.47	0.43	0.46	0.33	0.43	0.43	0.44	0.47	0.58	0.39	0.49	0.46	0.45	0.40	0.47	0.34	0.57	0.51	0.44
K2O	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Total	**99.57**	**99.77**	**99.61**	**99.69**	**100.43**	**100.22**	**99.68**	**99.36**	**98.94**	**98.84**	**100.02**	**100.91**	**100.37**	**100.58**	**100.19**	**99.62**	**99.62**	**100.03**	**99.94**
T																			
Si	1.92	1.93	1.92	1.95	1.93	1.92	1.94	1.93	1.92	1.91	1.89	1.90	1.90	1.91	1.91	1.91	1.91	1.91	1.91
Al IV	0.08	0.07	0.08	0.05	0.07	0.08	0.06	0.07	0.08	0.09	0.11	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.06	0.07	0.06	0.07	0.07	0.06	0.07	0.07	0.07	0.06	0.05	0.05	0.06	0.07	0.05	0.05	0.06	0.06	0.05
Fe3+	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.02	0.01	0.00	0.02	0.02	0.01	0.02	0.02
Ti4+	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Cr3+	0.009	0.006	0.006	0.006	0.007	0.005	0.005	0.006	0.010	0.008	0.003	0.004	0.004	0.004	0.005	0.007	0.016	0.011	0.013
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.83	0.83	0.83	0.83	0.87	0.84	0.82	0.84	0.79	0.79	0.83	0.83	0.81	0.82	0.82	0.81	0.80	0.83	0.89
Fe2+	0.08	0.07	0.08	0.08	0.03	0.07	0.09	0.06	0.11	0.11	0.05	0.06	0.09	0.09	0.08	0.09	0.08	0.07	0.01
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.10	0.13	0.12	0.11	0.18	0.12	0.10	0.14	0.10	0.09	0.15	0.15	0.12	0.12	0.11	0.08	0.09	0.10	0.20
Mn2+	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00
Ca2+	0.86	0.82	0.84	0.85	0.78	0.84	0.85	0.82	0.86	0.87	0.81	0.81	0.84	0.85	0.85	0.89	0.87	0.86	0.77
Na+	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.02	0.04	0.04	0.03
TOTAL M2	**1.00**	**0.99**	**1.00**	**0.98**	**0.99**	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	46	44	45	46	42	45	46	44	46	46	43	43	45	45	45	47	46	46	41
En (%)	**44**	**44**	**44**	**44**	**47**	**44**	**44**	**45**	**43**	**42**	**44**	**44**	**43**	**44**	**43**	**43**	**43**	**44**	**47**
Fs (%)	10	12	11	10	12	11	10	11	11	11	13	13	12	11	12	11	10	10	12
Q	1.87	1.86	1.87	1.87	1.86	1.87	1.87	1.85	1.85	1.87	1.84	1.86	1.86	1.87	1.86	1.87	1.84	1.85	1.86
J	0.07	0.06	0.07	0.05	0.06	0.06	0.06	0.07	0.08	0.06	0.07	0.07	0.06	0.06	0.07	0.05	0.08	0.07	0.06
Cr (ppm)	2067	1494	1400	1325	1766	1279	1059	1388	2220	1925	806	925	913	902	1106	1546	3714	2566	2987
Ti (ppm)	4343	3879	3854	2674	4791	4499	4234	4347	5227	4973	5144	5880	6507	5112	5340	4846	4319	4011	4034
Mn (pmm)	1309	1753	1145	939	1279	1152	675	1205	1124	1223	1329	1226	1009	960	1482	1365	1228	1426	631
Mg#	**0.82**	**0.80**	**0.80**	**0.82**	**0.81**	**0.81**	**0.81**	**0.81**	**0.80**	**0.79**	**0.78**	**0.78**	**0.79**	**0.80**	**0.79**	**0.81**	**0.81**	**0.82**	**0.79**

Table C.2- EPMA results for clinopyroxene (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF												
DESCRIP	Cpx (B)	Cpx semi-Poik (C)	Cpx semi-Poik (B)	Cpx semi-Poik (C)	Cpx semi-Poik (B)	Cpx semi-Poik (C)	Cpx semi-Poik (B)	Cpx (C)	Cpx cum (C)	Cpx cum ©	Cpx cum (B)
SAMPLE	CNT-5A	CNT-5B	CNT-5B	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3B	CNT-3B	CNT-3B
Label	2391[4-8]	2505 [3-1]	2506 [3-2]	2401[1-1]	2402 [1-2]	2407 [2-1]	2408 [2-2]	2417 [5-3]	2490 [1-3]	2497 [3-3]	2498 [4-1]
SiO2	51.74	52.40	52.75	52.08	51.22	52.14	51.66	51.79	51.98	51.54	51.74
TiO2	0.80	0.69	0.63	0.76	0.91	0.85	0.87	0.95	0.62	0.82	0.72
Al2O3	3.30	3.27	3.08	2.63	3.58	2.81	3.63	3.36	2.94	3.47	3.16
V2O3											
Cr2O3	0.38	0.50	0.35	0.14	0.15	0.03	0.13	0.08	0.11	0.13	0.13
MgO	15.23	14.88	15.23	15.03	14.49	14.86	14.65	14.93	14.78	14.44	15.17
CaO	21.00	21.94	22.11	21.83	21.76	21.60	21.69	20.82	21.72	21.31	20.50
MnO	0.16	0.13	0.15	0.13	0.16	0.21	0.19	0.23	0.22	0.13	0.20
FeO	6.51	5.96	6.13	6.97	7.24	7.43	7.16	6.93	6.39	7.48	7.52
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO											
Na2O	0.48	0.53	0.48	0.39	0.45	0.44	0.48	0.51	0.44	0.53	0.41
K2O	0.00	0.01	0.03	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Total	**99.61**	**100.28**	**100.91**	**99.95**	**99.97**	**100.36**	**100.45**	**99.61**	**99.21**	**99.84**	**99.54**
T											
Si	1.91	1.92	1.92	1.92	1.89	1.92	1.90	1.92	1.93	1.91	1.92
Al IV	0.09	0.08	0.08	0.08	0.11	0.08	0.10	0.08	0.07	0.09	0.08
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1											
Al VI	0.06	0.06	0.06	0.04	0.05	0.04	0.06	0.06	0.06	0.06	0.06
Fe3+	0.01	0.00	0.01	0.02	0.04	0.02	0.03	0.00	0.00	0.02	0.01
Ti4+	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.02
Cr3+	0.011	0.014	0.010	0.004	0.004	0.001	0.004	0.002	0.003	0.004	0.004
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.84	0.81	0.83	0.83	0.80	0.82	0.80	0.82	0.82	0.80	0.84
Fe2+	0.06	0.09	0.08	0.09	0.09	0.10	0.09	0.08	0.10	0.10	0.07
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2											
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.13	0.09	0.10	0.10	0.10	0.11	0.11	0.13	0.10	0.11	0.15
Mn2+	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01
Ca2+	0.83	0.86	0.86	0.86	0.86	0.85	0.85	0.83	0.86	0.84	0.81
Na+	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.03
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	44	46	46	45	46	45	45	44	46	45	43
En (%)	**45**	**44**	**44**	**43**	**42**	**43**	**43**	**44**	**43**	**42**	**44**
Fs (%)	11	10	10	11	12	12	12	12	11	13	13
Q	1.86	1.86	1.86	1.88	1.85	1.87	1.85	1.86	1.88	1.85	1.87
J	0.07	0.08	0.07	0.06	0.07	0.06	0.07	0.07	0.06	0.08	0.06
Cr (ppm)	2573	3419	2361	979	1042	206	862	568	759	871	897
Ti (ppm)	4821	4108	3759	4562	5428	5073	5231	5721	3714	4917	4341
Mn (pmm)	1265	980	1169	970	1217	1593	1464	1756	1701	1031	1535
Mg#	**0.81**	**0.82**	**0.82**	**0.79**	**0.78**	**0.78**	**0.78**	**0.79**	**0.80**	**0.77**	**0.78**

Table C.3- EPMA results for orthopyroxene.

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-																		
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Troct	Troct	Troct	Troct	Troct	Ol Gb	Ol Gb	Ol Gb	Troct	Troct	Troct	Troct	Troct	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Opx O_Ol-Pl def ©	Opx O_Ol-Pl def ©	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx O_Ol (C)	Opx O_Ol (B)	Opx O_Ol (C)	Opx O_Ol (C)	Opx O_Ol (C)	Opx O_Ol (B)	Opx O_Ol (C)	Opx O_Ol (B)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx intc (C)	Opx intc (B)	Opx intc (C)
SAMPLE	RS-6	RS-6	RS-7	RS-7	RS-7	RS-9	RS-9	RS-9	RS-10	RS-10	RS-10	RS-10	RS-10	RS-15	RS-16	RS-16	RS-17	RS-17	RS-17
Label	247 (6_4)	248 (6_5)	1175 [2-3]	1180 [3-1]	1181[3-2]	271(7_9)	272 (7_10)	275 (8_3)	181(4_3)	182 (4_3b)	183 (4_4)	190 (6_3)	191(6_4)	1094 [5-3]	1079 [5-3]	1084 [6-3]	1116 [5-3]	1117 [5-4]	1124 [6-3]
SiO2	57.41	56.82	56.65	57.46	57.52	55.44	55.02	55.69	57.24	56.94	56.92	57.26	56.03	56.44	56.13	54.99	55.76	55.26	55.40
TiO2	0.03	0.03	0.04	0.02	0.03	0.04	0.10	0.09	0.12	0.12	0.12	0.10	0.07	0.28	0.13	0.31	0.10	0.08	0.15
Al2O3	1.15	1.22	0.96	1.06	0.86	0.70	0.87	1.04	0.95	0.96	1.50	0.84	0.96	1.23	0.99	1.26	1.03	1.09	1.23
V2O3																			
Cr2O3	0.02	0.08	0.00	0.05	0.00	0.04	0.10	0.09	0.04	0.02	0.06	0.03	0.01	0.13	0.06	0.00	0.06	0.06	0.00
MgO	34.23	34.15	32.81	33.79	33.54	33.36	32.75	32.64	31.36	31.51	31.05	31.27	31.23	31.24	29.10	28.56	28.98	28.04	28.17
CaO	0.42	0.36	0.39	0.38	0.36	0.38	0.53	0.40	0.27	0.27	0.32	0.55	0.49	0.64	0.53	0.70	0.54	0.34	0.61
MnO	0.24	0.22	0.23	0.14	0.21	0.29	0.22	0.25	0.29	0.25	0.24	0.26	0.30	0.27	0.36	0.33	0.36	0.47	0.37
FeO	8.00	8.07	8.35	8.58	8.63	9.72	10.23	10.35	10.80	10.94	10.83	10.92	11.11	10.24	13.21	13.95	13.94	14.49	14.96
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.00	0.09	0.04	0.00	0.00	0.00
K2O	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01
Total	101.49	101.00	99.44	101.49	101.14	99.98	99.83	100.59	101.08	101.02	101.04	101.29	100.26	100.48	100.60	100.14	100.78	99.83	100.89
T																			
Si	1.96	1.95	1.98	1.97	1.98	1.93	1.92	1.94	1.99	1.98	1.98	1.99	1.97	1.97	1.98	1.96	1.98	1.98	1.97
Al IV	0.04	0.05	0.02	0.03	0.02	0.03	0.04	0.04	0.01	0.02	0.02	0.01	0.03	0.03	0.02	0.04	0.02	0.02	0.03
Fe3+	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.01	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.03	0.02	0.04	0.02	0.01	0.02	0.03	0.02	0.02	0.03	0.02
Fe3+	0.03	0.05	0.00	0.02	0.01	0.11	0.11	0.08	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.01	0.00	0.00	0.00
Ti4+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Cr3+	0.001	0.002	0.000	0.001	0.000	0.001	0.003	0.003	0.001	0.001	0.002	0.001	0.000	0.004	0.002	0.000	0.002	0.002	0.000
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.96	0.94	0.98	0.97	0.98	0.89	0.89	0.92	0.97	0.98	0.96	0.97	0.96	0.97	0.97	0.97	0.98	0.97	0.97
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.78	0.80	0.73	0.76	0.74	0.84	0.82	0.77	0.66	0.66	0.65	0.64	0.67	0.66	0.57	0.55	0.55	0.53	0.52
Fe2+	0.20	0.18	0.24	0.23	0.24	0.18	0.19	0.22	0.31	0.32	0.31	0.32	0.30	0.30	0.39	0.41	0.41	0.43	0.44
Mn2+	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.02	0.01	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.04	1.04	1.02	0.99	1.00	0.99	0.99	1.00	0.99	0.99	1.00	1.00	0.99	1.00
Wo (%)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
En (%)	87	87	87	87	87	85	84	84	83	83	83	82	82	83	78	77	78	76	76
Fs (%)	12	12	13	13	13	14	15	15	16	17	17	17	17	16	21	22	21	23	23
Q	1.95	1.94	1.97	1.96	1.97	1.92	1.92	1.93	1.95	1.96	1.94	1.96	1.95	1.95	1.94	1.96	1.96	1.95	1.96
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00
Cr (ppm)	131	557	1	349	1	273	652	642	291	133	387	186	62	890	393	1	404	391	1
Ti (ppm)	198	179	258	138	155	251	603	531	723	723	737	620	439	1684	761	1852	626	463	912
Mn (pmm)	1837	1735	1751	1087	1596	2261	1682	1970	2235	1963	1822	2049	2357	2097	2793	2543	2822	3613	2853
Mg#	0.88	0.88	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.84	0.84	0.84	0.83	0.84	0.80	0.78	0.79	0.78	0.77

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP																				
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Opx intc (B)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx O_Ol (C)	Opx O_Ol (B)	Opx O_Ol ©	Opx O_Ol (B)	Opx O_Ol ©	Opx O_Ol (B)	Opx O_Ol ©	Opx O_Ol (B)	Opx O_Ol ©	Opx O_Ol (B)	Opx O Oxd ©	Opx O Oxd (B)	Opx O_Ol ©	
SAMPLE	**RS-17**	**RS-18**	**RS-18**	**RS-21**	**RS-21**	**RS-21**	**RS-2**	**RS-2**	**RS-2**	**RS-2**	**RS-1B**	**RS-1B**	**RS-1B**	**RS-1B**	**RS-1B**	**RS-1B**	**RS-3**	**RS-3**	**RS-3**	
Label	1125 [6-4]	1147A [3-3]	1155A [4-3]	1132 [3-5]	1141[4-5]	1142 [4-6]	226 (2_4)	227 (2_5)	232 (4_1)	233 (4_2)	207 (2_5)	208 (2_6)	213 (3_3)	214 (3_4)	215 (4_1)	216 (4_2)	252 (1_4)	253 (1_5)	259 (4_3)	
SiO2	55.19	55.85	56.10	55.90	56.10	55.24	55.21	54.89	55.38	55.84	55.46	55.38	56.00	56.50	56.00	55.73	54.55	54.49	55.48	
TiO2	0.07	0.29	0.09	0.21	0.32	0.16	0.19	0.12	0.30	0.31	0.14	0.11	0.15	0.11	0.18	0.23	0.18	0.15	0.08	
Al2O3	1.31	1.00	1.01	1.12	1.14	1.09	1.19	1.55	1.10	1.19	1.07	1.08	1.13	1.06	1.10	1.19	1.06	1.34	1.11	
V2O3																				
Cr2O3	0.02	0.02	0.01	0.08	0.07	0.04	0.11	0.16	0.10	0.05	0.05	0.10	0.00	0.00	0.05	0.03	0.01	0.06	0.01	
MgO	28.10	29.31	29.39	30.21	30.47	30.20	28.58	29.12	29.44	29.14	28.74	29.16	29.08	29.01	28.83	28.68	27.91	27.56	28.83	
CaO	0.59	0.83	0.52	0.71	0.73	0.63	0.68	0.51	0.56	0.76	0.74	0.67	0.72	0.55	0.58	0.72	0.69	0.68	0.53	
MnO	0.45	0.31	0.29	0.29	0.32	0.26	0.27	0.30	0.32	0.33	0.33	0.38	0.39	0.34	0.38	0.37	0.39	0.34	0.35	
FeO	14.48	12.62	13.17	12.19	11.31	11.58	12.57	12.71	12.90	12.75	14.08	14.25	13.56	13.15	13.78	13.37	15.25	15.18	14.81	
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	
ZnO																				
Na2O	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	
K2O	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.01	
Total	**100.21**	**100.22**	**100.59**	**100.71**	**100.45**	**99.20**	**98.81**	**99.36**	**100.10**	**100.37**	**100.62**	**101.14**	**101.04**	**100.72**	**100.93**	**100.31**	**100.06**	**99.79**	**101.20**	
T																				
Si	1.97	1.98	1.98	1.97	1.97	1.97	1.98	1.96	1.97	1.98	1.97	1.96	1.98	1.99	1.98	1.98	1.96	1.96	1.96	
Al IV	0.03	0.02	0.02	0.03	0.03	0.03	0.02	0.04	0.03	0.02	0.03	0.04	0.02	0.01	0.02	0.02	0.04	0.04	0.04	
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	
M1																				
Al VI	0.03	0.02	0.02	0.01	0.02	0.01	0.03	0.03	0.01	0.03	0.02	0.00	0.02	0.04	0.03	0.03	0.00	0.02	0.01	
Fe3+	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.03	0.01	0.03	
Ti4+	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	
Cr3+	0.001	0.001	0.000	0.002	0.002	0.001	0.003	0.004	0.003	0.001	0.001	0.003	0.000	0.000	0.002	0.001	0.000	0.002	0.000	
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mg2+	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.98	0.96	0.97	0.96	0.97	0.96	0.97	0.96	0.96	0.97	0.96	
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	
M2																				
Mg2+	0.53	0.58	0.58	0.61	0.63	0.63	0.57	0.59	0.58	0.57	0.55	0.58	0.56	0.56	0.55	0.55	0.53	0.51	0.56	
Fe2+	0.43	0.37	0.39	0.35	0.33	0.34	0.38	0.38	0.38	0.38	0.41	0.38	0.40	0.39	0.41	0.40	0.43	0.45	0.41	
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Ca2+	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.02	
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL M2	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**0.98**	**1.00**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**0.98**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	
Wo (%)	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
En (%)	**76**	**79**	**79**	**80**	**81**	**81**	**79**	**79**	**79**	**79**	**77**	**77**	**78**	**78**	**78**	**78**	**75**	**75**	**76**	
Fs (%)	23	20	20	19	17	18	20	20	20	20	22	22	21	20	21	21	24	24	23	
Q	1.95	1.95	1.96	1.96	1.96	1.96	1.93	1.95	1.96	1.94	1.96	1.94	1.96	1.93	1.95	1.94	1.95	1.96	1.95	
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cr (ppm)	135	135	49	529	470	247	781	1074	712	339	337	710	1	1	373	175	58	406	35	
Ti (ppm)	401	1747	568	1262	1921	978	1144	733	1782	1871	846	688	916	640	1085	1400	1052	877	451	
Mn (pmm)	3471	2413	2213	2272	2460	2048	2103	2356	2446	2517	2567	2917	3040	2629	2936	2847	3022	2622	2735	
Mg#	**0.78**	**0.81**	**0.80**	**0.82**	**0.83**	**0.82**	**0.80**	**0.80**	**0.80**	**0.80**	**0.78**	**0.78**	**0.79**	**0.80**	**0.79**	**0.79**	**0.77**	**0.76**	**0.78**	

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP										Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Opx O Oxd (C)	Opx O Oxd (B)	Opx (C)	Opx (C)	Opx (C)	Opx (B)	Opx O Oxd (C)	Opx O Oxd (B)	Opx O Oxd (C)	Opx O Cpx©	Opx O Cpx (B)	Opx O Cpx©	Opx O Cpx (B)	Opx O Oxd ©	Opx_O_Oxd ©	Opx_O_Cpx©	Opx_O_Cpx©	Opx_O_Ol ©	Opx_O_Oxd/Ol ©
SAMPLE	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25
Label	292 (2_1)	293 (2_2)	296 (3_4)	297 (3_5)	302 (5_1)	303 (5_2)	304 (5_3)	305 (5_4)	306 (6_4)	328 (1_7)	329 (1_8)	332 (2_3)	333 (2_4)	336A (4_5A)	M573 (4_3)	M431 (4_3)	M434 (4_6)	M437 (2_3)	M444 (3_3)
SiO2	53.48	53.13	53.30	53.44	52.87	53.33	53.42	52.74	53.77	52.84	53.23	53.61	53.68	53.65	53.29	53.69	53.46	53.49	54.47
TiO2	0.13	0.09	0.14	0.15	0.31	0.27	0.16	0.15	0.19	0.32	0.25	0.27	0.15	0.16	0.29	0.24	0.26	0.21	0.25
Al2O3	0.65	0.63	0.72	0.68	0.84	0.73	0.68	0.83	0.68	0.98	0.97	0.93	0.73	0.81	1.22	0.97	0.96	1.10	1.32
V2O3															0.00	0.00	0.00	0.00	0.00
Cr2O3	0.00	0.02	0.01	0.00	0.00	0.01	0.01	0.03	0.00	0.04	0.00	0.04	0.00	0.01	0.03	0.00	0.00	0.03	0.00
MgO	22.24	22.21	22.40	22.59	21.82	21.89	22.14	21.81	22.44	21.43	21.77	22.08	22.14	22.57	24.96	25.83	25.04	24.23	26.66
CaO	0.66	0.59	0.75	0.71	1.55	1.02	0.73	0.75	0.79	1.40	1.17	1.06	0.99	0.79	1.01	0.78	0.85	0.79	0.70
MnO	0.56	0.56	0.55	0.59	0.53	0.59	0.60	0.51	0.56	0.50	0.57	0.57	0.63	0.59	0.41	0.41	0.42	0.41	0.42
FeO	21.95	21.93	21.32	21.82	21.75	22.46	22.17	22.26	21.66	21.82	21.56	21.75	22.09	21.32	18.80	17.36	18.15	19.29	16.70
NiO	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
ZnO															0.00	0.00	0.00	0.00	0.00
Na2O	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.03	0.03	0.06	0.06	0.00	0.00	0.04	0.01	0.02
K2O	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.03	0.01	0.00	0.00	0.01	0.00	0.02	0.02	0.00	0.01	0.00	0.00
Total	99.69	99.17	99.23	99.98	99.66	100.32	99.91	99.11	100.14	99.37	99.55	100.34	100.46	100.00	100.02	99.28	99.19	99.56	100.54
T																			
Si	1.99	1.99	1.99	1.99	1.98	1.98	1.99	1.98	1.99	1.98	1.99	1.98	1.99	1.99	1.95	1.97	1.97	1.97	1.96
Al IV	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.05	0.03	0.03	0.03	0.04
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.00	0.01	0.01	0.02	0.02
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.01	0.00	0.01
Ti4+	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Cr3+	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.001	0.000
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.98	0.97	0.98	0.98	0.98	0.98	0.98	0.97	0.97	0.96	0.97	0.98	0.97	0.96	0.97	0.97	0.97	0.97
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.26	0.26	0.27	0.27	0.24	0.24	0.25	0.25	0.27	0.23	0.25	0.25	0.25	0.28	0.40	0.44	0.40	0.36	0.46
Fe2+	0.68	0.69	0.67	0.68	0.68	0.70	0.69	0.70	0.67	0.68	0.67	0.67	0.68	0.66	0.54	0.52	0.55	0.59	0.49
Mn2+	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.02	0.03	0.03	0.06	0.04	0.03	0.03	0.03	0.06	0.05	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	0.99	0.99	0.99	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Wo (%)	1	1	2	1	3	2	1	2	2	3	2	2	2	2	2	2	2	2	1
En (%)	63	63	64	63	62	62	62	62	63	61	62	62	62	64	68	71	69	68	72
Fs (%)	36	36	35	35	35	36	36	36	35	36	35	35	36	35	30	27	29	31	26
Q	1.95	1.95	1.94	1.96	1.96	1.95	1.95	1.95	1.94	1.94	1.93	1.93	1.95	1.94	1.94	1.96	1.95	1.96	1.95
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00
Cr (ppm)	1	170	79	1	1	91	102	238	1	283	1	273	1	79	211	0	0	235	0
Ti (ppm)	799	544	833	886	1885	1589	988	891	1162	1933	1525	1589	875	965	1733	1447	1529	1237	1498
Mn (pmm)	4350	4369	4243	4569	4080	4553	4652	3985	4357	3906	4392	4452	4897	4602	3137	3162	3272	3170	3265
Mg#	0.64	0.64	0.65	0.65	0.64	0.63	0.64	0.64	0.65	0.64	0.64	0.64	0.64	0.65	0.70	0.73	0.71	0.69	0.74

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP	Int	Int	Int	Int	Upp	Upp	Upp	Upp											
UNIT	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Gb I	Ol Gb I	Ol Gb I
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Troct	Troct	Troct	Troct	Troct	Troct	Opx Leucog	Opx Leucog	Ol Gb	Ol Gb_Opx	Ol Gb_Opx
DESCRIP	Opx O_Ol-Cpx©	Opx O_Ol-Cpx (B)	Opx O_Ol-Cpx©	Opx O_Oxd ©	Opx O_Cpx-Ol	Opx O_Cpx-Ol	Opx O_Cpx-Ol	Opx O_Cpx-Ol	Opx_intc ©	Opx_intc (B_Oxd)	Opx_intc (B_Ol)	Opx_intc (B_Oxd)	Opx (C_Oxd)	Opx_intc (B_Ol)	Opx intc ©	Opx intc (B)	Opx_O_Ol ©	Opx_O_Ol (B_Ol)	Opx_O_Cpx©
SAMPLE	ODV-G-38	ODV-G-38	ODV-G-37	ODV-G-37	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-G-41	ODV-G-41	ODV-G-28	ODV-G-32	ODV-G-32
Label	377 (4_3)	378 (4_4)	365 (3_5)	368 (4_3)	342 (2_5)	343 (2_6)	348 (3_9)	349 (3_10)	M414 (1_3)	M415 (1_4)	M417 (2_5)	M418 (2_6)	M420 (3_7)	M419 (3_6)	415 (1_10)	416 (1_11)	418 (2_1)	M643 (1_1)	M648 (1_3)
SiO2	54.02	54.41	53.43	53.56	53.41	53.36	53.59	53.82	53.51	54.46	55.44	54.99	54.47	54.48	53.57	53.25	54.00	54.42	54.04
TiO2	0.28	0.31	0.30	0.28	0.24	0.17	0.22	0.29	0.22	0.10	0.09	0.23	0.08	0.10	0.25	0.23	0.20	0.35	0.23
Al2O3	1.15	1.13	1.20	1.23	0.99	0.77	0.91	1.08	1.44	1.59	1.27	1.24	1.47	1.51	1.25	1.24	1.20	1.24	1.29
V2O3									0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00
Cr2O3	0.03	0.01	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.06	0.02
MgO	25.23	25.39	24.82	24.59	22.47	22.92	22.56	22.24	27.29	27.69	27.80	27.55	27.66	27.42	25.81	26.08	27.39	26.99	26.89
CaO	0.96	0.90	1.16	1.06	0.97	0.70	0.84	1.09	0.79	0.56	0.55	0.85	0.44	0.60	0.86	0.84	1.07	1.10	0.89
MnO	0.44	0.42	0.43	0.44	0.54	0.59	0.59	0.52	0.44	0.42	0.41	0.43	0.40	0.41	0.38	0.38	0.37	0.36	0.30
FeO	17.32	17.19	17.63	18.07	20.98	20.27	21.01	22.02	14.73	15.34	14.85	14.86	14.57	14.88	16.23	16.31	14.89	15.71	16.05
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO									0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00
Na2O	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.03	0.01	0.05	0.00	0.00	0.02	0.01	0.04	0.01	0.03	0.05
K2O	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
Total	99.42	99.76	98.97	99.27	99.62	98.79	99.72	101.07	98.45	100.20	100.45	100.15	99.09	99.41	98.37	98.37	99.13	100.26	99.75
T																			
Si	1.98	1.98	1.97	1.97	1.98	1.99	1.99	1.98	1.95	1.95	1.98	1.97	1.97	1.97	1.97	1.96	1.96	1.96	1.95
Al IV	0.02	0.02	0.03	0.03	0.02	0.01	0.01	0.02	0.05	0.05	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.01	0.02	0.03	0.02	0.03	0.03	0.03	0.01	0.01	0.01	0.01
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.03
Ti4+	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Cr3+	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.000
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.96	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.95	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.97	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.41	0.42	0.39	0.38	0.28	0.31	0.28	0.25	0.53	0.53	0.51	0.50	0.53	0.51	0.45	0.47	0.52	0.48	0.49
Fe2+	0.53	0.52	0.54	0.56	0.65	0.63	0.65	0.68	0.42	0.44	0.44	0.45	0.44	0.45	0.50	0.48	0.43	0.46	0.46
Mn2+	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.04	0.04	0.05	0.04	0.04	0.03	0.03	0.04	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.04	0.04	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	0.99	0.99	1.00	0.99	0.99	0.99	0.99	0.99	1.00	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Wo (%)	2	2	2	2	2	1	2	2	2	1	1	2	1	1	2	2	2	2	2
En (%)	70	71	69	69	64	65	64	62	75	75	76	75	76	75	72	72	75	73	73
Fs (%)	28	28	28	29	34	33	34	35	23	24	23	23	23	24	26	26	23	25	25
Q	1.94	1.94	1.95	1.95	1.93	1.94	1.93	1.94	1.94	1.94	1.94	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.94
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Cr (ppm)	173	57	1	275	1	1	1	1	0	139	0	58	0	0	138	1	1	427	118
Ti (ppm)	1664	1887	1798	1698	1424	998	1298	1763	1306	580	557	1353	499	573	1479	1398	1175	2110	1360
Mn (pmm)	3398	3218	3324	3392	4216	4606	4542	3995	3397	3226	3166	3354	3126	3165	2927	2976	2872	2821	2313
Mg#	0.72	0.72	0.72	0.71	0.66	0.67	0.66	0.64	0.77	0.76	0.77	0.77	0.77	0.77	0.74	0.74	0.77	0.75	0.75

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP										Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog															
DESCRIP	Opx O Cpx©	Opx O Cpx(B)	Opx intc ©	Opx intc (B)	Opx (B)	Opx©	Opx intc (C)	Opx intc (B)	Opx intx©	Opx intc (C)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (C)	Opx intc (C)	Opx intc (C)
SAMPLE	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D4	ODV-D4	ODV-D4	CVD-19A	CVD-19A	CVD-19A	CVD-17	CVD-17	CVD-17	CVD-17D	CVD-17D	CVD-16A	CVD-16A
Label	387 (2_3)	388 (2_4)	397 (3_5)	398 (3_6)	1193 [5-7]	1198 [6-5]	1199 [3-5]	1200 [3-6]	1209 [6-3]	1046 [1-3]	1059 [3-3]	1060 [3-4]	950 [1-10]	955 [2-5]	956 [2-6]	1015 [2-12]	1016 [2-13]	988[1-5]	997 [2-7]
SiO2	54.46	54.69	54.85	54.41	55.05	55.10	55.03	54.84	54.53	54.30	54.38	54.20	55.06	54.74	54.96	54.88	55.32	54.67	55.65
TiO2	0.23	0.17	0.13	0.08	0.17	0.24	0.25	0.19	0.15	0.28	0.27	0.20	0.29	0.27	0.18	0.27	0.28	0.30	0.26
Al2O3	1.16	1.37	1.12	1.22	1.13	1.03	1.45	1.26	1.39	1.40	1.31	1.33	1.13	1.18	1.17	1.32	1.17	1.34	1.33
V2O3																			
Cr2O3	0.03	0.01	0.04	0.03	0.00	0.12	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.02	0.01	0.06	0.04	0.01	0.04
MgO	27.27	26.95	27.16	26.95	27.50	27.29	27.06	26.90	26.71	26.57	26.52	26.76	26.87	26.42	26.15	26.83	27.46	27.71	27.62
CaO	0.71	0.68	0.76	0.72	0.50	0.98	0.86	0.72	0.76	0.85	0.77	0.58	1.05	0.85	0.96	0.88	0.79	0.75	0.74
MnO	0.36	0.35	0.37	0.33	0.40	0.33	0.40	0.39	0.41	0.31	0.36	0.40	0.49	0.41	0.42	0.45	0.40	0.40	0.38
FeO	15.29	15.72	15.28	14.87	15.53	15.34	16.16	16.54	16.25	16.81	16.60	16.75	16.33	15.57	16.13	15.62	15.20	14.86	14.77
NiO	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.03	0.03	0.05	0.35	0.00	0.04	0.00	0.07	0.02	0.02	0.00	0.05	0.02	0.02	0.00	0.00	0.00	0.04
K2O	0.01	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Total	**99.52**	**99.96**	**99.75**	**98.67**	**100.63**	**100.42**	**101.23**	**100.85**	**100.27**	**100.56**	**100.23**	**100.23**	**101.27**	**99.49**	**100.01**	**100.33**	**100.66**	**100.05**	**100.84**
T																			
Si	1.97	1.97	1.98	1.98	1.97	1.98	1.96	1.97	1.97	1.96	1.96	1.96	1.97	1.98	1.98	1.97	1.98	1.96	1.98
Al IV	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.02	0.03	0.02	0.04	0.02
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.02	0.03	0.03	0.03	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.03	0.03	0.03	0.02	0.02	0.03
Fe3+	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.02	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01
Cr3+	0.001	0.000	0.001	0.001	0.000	0.003	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.002	0.001	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.97	0.97	0.96	0.95	0.97	0.97	0.97	0.96	0.96	0.97	0.96	0.97	0.96	0.96	0.96	0.97	0.97	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.50	0.48	0.49	0.50	0.52	0.49	0.47	0.47	0.47	0.46	0.46	0.48	0.46	0.47	0.45	0.47	0.50	0.51	0.51
Fe2+	0.46	0.47	0.46	0.45	0.43	0.46	0.48	0.49	0.48	0.49	0.50	0.49	0.48	0.47	0.49	0.47	0.45	0.45	0.44
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.03	0.03	0.03	0.03
Na+	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**1.00**	**1.00**	**0.99**	**0.99**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**0.99**	**0.99**	**1.00**	**0.99**
Wo (%)	1	1	1	1	1	2	2	1	1	2	2	1	2	2	2	2	2	1	1
En (%)	**75**	**74**	**74**	**75**	**75**	**74**	**73**	**73**	**73**	**72**	**72**	**73**	**72**	**73**	**72**	**74**	**75**	**75**	**75**
Fs (%)	24	25	24	24	24	24	25	26	26	26	26	26	25	25	26	25	24	23	23
Q	1.96	1.95	1.95	1.94	1.91	1.96	1.95	1.96	1.95	1.95	1.96	1.95	1.95	1.93	1.93	1.94	1.95	1.96	1.93
J	0.00	0.00	0.00	0.01	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
Cr (ppm)	220	47	256	209	1	795	1	1	1	195	25	85	1	146	73	429	258	86	307
Ti (ppm)	1405	1010	775	462	1020	1421	1484	1162	901	1662	1603	1206	1712	1616	1053	1630	1677	1782	1566
Mn (pmm)	2770	2699	2902	2571	3131	2550	3065	3052	3164	2370	2762	3096	3799	3181	3224	3454	3090	3097	2914
Mg#	**0.76**	**0.75**	**0.76**	**0.76**	**0.76**	**0.76**	**0.75**	**0.74**	**0.75**	**0.74**	**0.74**	**0.74**	**0.75**	**0.75**	**0.74**	**0.75**	**0.76**	**0.77**	**0.77**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF									Px Porh Ol Gb					Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Opx intc (C)	Opx intc (C)	Opx intc (C)	Opx intc (C)	Opx intc (B)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_All (C)	Opx_O_All (B)	Opx_O_Ol (C)	Opx O All (C)	Opx intc (C)	Opx intc (C)	Opx_O_Ol (C)	Opx_O_Ol (B)
SAMPLE	CVD-16B	CVD-15	CVD-15	CVD-15	CVD-15	CVD-8	CVD-8	CVD-8	CVD-6A1	CVD-4A	CVD-4A	CVD-4A	CVD-4A	CVD-2A	CVD-2A	CVD-2C	CVD-2C	CVD-2D	CVD-2D
Label	1069 [1-3]	1032 [4-3]	1033 [4-4]	1042 [6-3]	1043 [6-4]	807 (1-4)	808 (1-5)	815 (2-3)	795 [1-4]	832 (1-7)	833 (1-8)	838 (2-3)	839 (2-4)	860 (1-3)	874 (2-10)	903 [3-5]	909 [4-7]	880 (1-6)	881(1-7)
SiO2	54.88	54.75	54.58	54.07	54.28	53.85	54.43	54.45	55.04	54.82	54.74	54.46	54.35	54.29	54.37	55.15	54.88	55.34	55.29
TiO2	0.24	0.35	0.33	0.22	0.29	0.25	0.19	0.15	0.11	0.29	0.27	0.31	0.29	0.11	0.25	0.30	0.33	0.39	0.25
Al2O3	1.41	1.38	1.37	1.15	1.39	1.46	1.21	1.14	1.17	1.33	1.32	1.28	1.21	1.10	1.41	1.27	1.39	1.41	1.40
V2O3																			
Cr2O3	0.00	0.03	0.00	0.02	0.07	0.02	0.00	0.00	0.00	0.05	0.08	0.07	0.07	0.03	0.05	0.00	0.11	0.11	0.07
MgO	27.77	27.23	26.90	27.07	27.35	27.70	27.94	27.51	28.50	27.94	27.87	26.99	27.09	27.46	27.57	27.77	27.64	27.73	28.30
CaO	0.78	1.01	1.04	0.64	0.83	0.70	0.46	0.80	0.62	0.86	0.90	1.07	1.06	0.70	0.93	0.90	1.04	1.14	0.82
MnO	0.27	0.32	0.39	0.37	0.37	0.30	0.29	0.34	0.27	0.32	0.36	0.34	0.34	0.35	0.25	0.39	0.33	0.29	0.31
FeO	15.57	15.01	15.18	16.17	16.34	14.52	14.46	14.43	14.47	15.20	15.01	15.39	15.58	15.29	14.49	14.63	14.28	14.27	13.73
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.00	0.02	0.02	0.03	0.01	0.02	0.02	0.06	0.00	0.00	0.03	0.02
K2O	0.00	0.02	0.00	0.00	0.00	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00
Total	**100.92**	**100.10**	**99.78**	**99.71**	**100.92**	**98.83**	**98.98**	**98.82**	**100.22**	**100.84**	**100.57**	**99.92**	**100.00**	**99.37**	**99.38**	**100.41**	**99.99**	**100.70**	**100.20**
T																			
Si	1.96	1.97	1.97	1.96	1.94	1.95	1.97	1.98	1.97	1.95	1.96	1.97	1.96	1.96	1.96	1.97	1.97	1.97	1.97
Al IV	0.04	0.03	0.03	0.04	0.06	0.05	0.03	0.02	0.03	0.05	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.02	0.03	0.03	0.01	0.00	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.03	0.03	0.03
Fe3+	0.02	0.00	0.00	0.02	0.04	0.02	0.00	0.00	0.02	0.02	0.02	0.00	0.01	0.02	0.01	0.00	0.00	0.00	0.00
Ti4+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01
Cr3+	0.000	0.001	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.001	0.002	0.002	0.002	0.001	0.001	0.000	0.003	0.003	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.96	0.96	0.96	0.96	0.95	0.96	0.97	0.97	0.97	0.96	0.96	0.97	0.97	0.97	0.96	0.97	0.96	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.51	0.49	0.48	0.50	0.51	0.54	0.53	0.52	0.55	0.52	0.52	0.48	0.49	0.52	0.52	0.51	0.51	0.51	0.54
Fe2+	0.45	0.45	0.46	0.47	0.45	0.42	0.44	0.44	0.42	0.43	0.43	0.46	0.46	0.45	0.43	0.44	0.43	0.42	0.41
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.04	0.04	0.02	0.03	0.03	0.02	0.03	0.02	0.03	0.03	0.04	0.04	0.03	0.04	0.03	0.04	0.04	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**1.00**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**0.99**	**0.99**
Wo (%)	2	2	2	1	2	1	1	2	1	2	2	2	2	1	2	2	2	2	2
En (%)	**75**	**74**	**74**	**74**	**73**	**76**	**76**	**76**	**77**	**75**	**75**	**74**	**74**	**75**	**76**	**75**	**76**	**76**	**77**
Fs (%)	24	24	24	25	25	23	23	23	22	23	23	24	24	24	23	23	22	22	21
Q	1.95	1.95	1.94	1.95	1.94	1.95	1.96	1.96	1.96	1.95	1.95	1.96	1.95	1.95	1.95	1.95	1.95	1.94	1.94
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Cr (ppm)	1	195	1	133	510	106	1	1	0	329	540	458	469	200	317	1	736	727	449
Ti (ppm)	1468	2107	1962	1327	1712	1496	1140	904	680	1755	1621	1867	1730	682	1486	1782	1980	2355	1499
Mn (pmm)	2080	2476	2986	2898	2898	2293	2272	2645	2092	2470	2754	2622	2622	2733	1925	3043	2561	2274	2412
Mg#	**0.76**	**0.76**	**0.76**	**0.75**	**0.75**	**0.77**	**0.77**	**0.77**	**0.78**	**0.77**	**0.77**	**0.76**	**0.76**	**0.76**	**0.77**	**0.77**	**0.78**	**0.78**	**0.79**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	-	-	-	-	-	-	-	-	1	1	1	1	1	2	2	3	3	3	3
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Upp Ol Leucog III	Low Px Gb	Low Px Gb	Low Px Gb	Low Px Gb	Low Px Gb	Low Px Gb	Low Px Gb	Low Px Gb-Cum	Low Px Gb-Cum	Low Px Gb-Cum	Low Px Gb
UNIT									Hb Gb	Hb Gb	Hb Gb	Hb Gb	Hb Gb			Cpxnt	Cpxnt	Cpxnt	
CLASIF																			
DESCRIP	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx O_OL (C)	Opx_O_Cpx (C)	Opx intc (C)	Opx intc (B)	Opx Poik (C)	Opx Poik (B)	Opx Poik (C)	Opx Poik (B)	Opx_O_Ol (C)	Opx intc (C)	Opx intc (B)	Opx (C)	Opx (C)	Opx (C)	Opx intc (C)
SAMPLE	CVD-1A	CVD-1A	CVD-1A	CVD-1A	CVD-20	CVD-20	CVD-20	CVD-20	PEROG 5	PEROG 5	PEROG 5	PEROG 5	PEROG 5	CNT-23A	CNT-23A	SB-N3	SB-N3	SB-N3	CNT-25-2
Label	971[1-3]	972 [1-4]	978 [2-3]	979 [2-4]	929 [3-5]	930 [3-6]	937 [4-5]	938 [4-6]	1921[3-1]	1922 [3-2]	1926 [4-3]	1927 [4-4]	1930 [5-3]	1486 [1-1]	1487 [1-2]	1369 [2-3]	1370 [3-1]	1371A [5-7]	1238 [2-2]
SiO2	54.50	55.43	55.26	54.94	54.30	53.91	54.12	54.65	54.22	54.24	55.02	54.56	54.52	54.14	53.71	53.65	53.54	53.05	55.23
TiO2	0.32	0.21	0.21	0.21	0.28	0.23	0.22	0.15	0.36	0.27	0.30	0.26	0.10	0.22	0.23	0.32	0.32	0.28	0.13
Al2O3	1.39	1.36	1.32	1.29	1.27	1.34	1.23	1.14	1.21	0.97	1.02	1.03	0.86	1.45	1.48	1.26	1.33	1.39	1.50
V2O3																			
Cr2O3	0.00	0.02	0.01	0.00	0.02	0.03	0.01	0.05	0.09	0.11	0.06	0.06	0.04	0.00	0.00	0.00	0.01	0.07	0.05
MgO	26.62	27.40	27.19	27.08	26.62	25.57	26.60	27.07	26.36	25.99	26.18	26.40	26.86	27.62	27.05	24.93	25.15	24.94	29.77
CaO	0.91	0.67	0.82	0.65	1.02	0.96	0.93	0.72	1.28	1.05	1.12	1.08	0.70	0.57	0.73	1.11	0.96	1.06	0.63
MnO	0.33	0.35	0.41	0.40	0.34	0.36	0.38	0.45	0.31	0.42	0.44	0.39	0.46	0.41	0.42	0.49	0.49	0.48	0.34
FeO	14.45	14.44	14.83	15.04	16.65	17.76	16.49	16.19	16.18	16.72	15.68	16.51	15.56	15.04	15.40	17.47	18.30	17.54	13.17
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.01	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.02	0.03	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.00
K2O	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Total	**98.53**	**99.88**	**100.05**	**99.61**	**100.49**	**100.15**	**99.98**	**100.43**	**100.04**	**99.80**	**99.81**	**100.28**	**99.10**	**99.47**	**99.01**	**99.27**	**100.10**	**98.80**	**100.82**
T																			
Si	1.98	1.98	1.98	1.98	1.96	1.96	1.96	1.97	1.96	1.97	1.99	1.97	1.98	1.96	1.95	1.97	1.95	1.96	1.95
Al IV	0.02	0.02	0.02	0.02	0.04	0.04	0.04	0.03	0.04	0.03	0.01	0.03	0.02	0.04	0.05	0.03	0.05	0.04	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.04	0.04	0.04	0.04	0.01	0.02	0.01	0.01	0.01	0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01
Fe3+	0.00	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.02	0.00	0.04
Ti4+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00
Cr3+	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.001	0.003	0.003	0.002	0.002	0.001	0.000	0.000	0.000	0.000	0.002	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.95	0.95	0.96	0.96	0.96	0.97	0.96	0.97	0.97	0.98	0.96	0.98	0.98	0.96	0.96	0.97	0.96	0.97	0.95
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.49	0.51	0.50	0.50	0.47	0.42	0.47	0.48	0.45	0.43	0.45	0.45	0.48	0.53	0.51	0.40	0.41	0.41	0.61
Fe2+	0.44	0.43	0.44	0.45	0.48	0.53	0.48	0.48	0.49	0.51	0.47	0.50	0.47	0.44	0.45	0.54	0.54	0.54	0.35
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01
Ca2+	0.04	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.05	0.04	0.04	0.04	0.03	0.02	0.03	0.04	0.04	0.04	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**0.98**	**0.98**	**0.99**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.98**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	2	1	2	1	2	2	2	1	3	2	2	2	1	1	1	2	2	2	1
En (%)	**75**	**76**	**75**	**75**	**72**	**70**	**72**	**73**	**72**	**71**	**73**	**72**	**74**	**75**	**74**	**70**	**69**	**70**	**79**
Fs (%)	23	23	24	24	26	28	26	25	25	26	25	26	25	24	24	28	29	28	20
Q	1.92	1.92	1.93	1.93	1.95	1.95	1.95	1.96	1.96	1.96	1.93	1.96	1.96	1.94	1.95	1.94	1.95	1.95	1.94
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Cr (ppm)	1	135	49	1	109	181	97	315	625	733	393	380	282	1	1	1	73	499	308
Ti (ppm)	1927	1258	1252	1246	1679	1396	1345	908	2178	1625	1813	1586	571	1345	1388	1911	1937	1679	786
Mn (pmm)	2534	2726	3138	3059	2598	2769	2916	3520	2436	3236	3394	3033	3569	3156	3242	3806	3792	3694	2634
Mg#	**0.77**	**0.77**	**0.77**	**0.76**	**0.74**	**0.72**	**0.74**	**0.75**	**0.74**	**0.73**	**0.75**	**0.74**	**0.75**	**0.77**	**0.76**	**0.72**	**0.71**	**0.72**	**0.80**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	3	3	3	1	1	2	2	2	2	3	3	3	1	1	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Gb	Cpxnt-Microgb	Cpxnt-Microgb	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF		Cpxnt	Cpxnt																
DESCRIP	Opx_O_Ol (C)	Opx (C)	Opx (B)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_Cpx(C)	Opx intc (C)	Opx intc (C)	Opx intc ©	Opx O Cpx+H	Opx_O_Sulf (C)	Opx_O_Sulf (B)	Opx intc ©
SAMPLE	CNT-25-2	SB-N1	SB-N1	CNT-26	CNT-26	SB-W3	SB-W3	SB-W3	SB-W3	CNT-17-1	CNT-15A	CNT-15A	CNT-20	CNT-18	SB-14A	SB-6	CNT-27	CNT-27	SB-13
Label	1252 [4-3]	1479 [2-3]	1480 [2-4]]	1384 [5-2]	1385 [5-3]	1687 [1-8]	1688 [1-9]	1700 [6-3]	1701[6-4]	1406 [4-3]	1354 [1-4]	1360 [2-3]	1740 [6-3]	1447 [2-4]	505 (5_3)	515 (4_3)	1795 [1-10]	1796 [1-11]	478 (4_1)
SiO2	54.67	53.46	53.62	54.28	53.51	54.21	53.86	54.57	55.29	53.64	54.95	55.00	54.23	53.90	54.68	54.30	55.05	53.63	53.74
TiO2	0.24	0.32	0.27	0.13	0.21	0.34	0.24	0.15	0.05	0.33	0.19	0.19	0.03	0.32	0.20	0.29	0.11	0.06	0.28
Al2O3	1.42	1.24	1.12	1.54	1.64	1.60	1.68	1.46	1.31	1.74	1.57	1.45	1.65	1.65	1.62	1.72	0.93	1.47	1.62
V2O3																			
Cr2O3	0.06	0.00	0.02	0.06	0.06	0.04	0.04	0.03	0.02	0.04	0.04	0.11	0.04	0.03	0.07	0.11	0.00	0.00	0.06
MgO	28.79	25.38	25.78	27.46	26.67	26.88	27.14	27.73	28.71	27.39	28.83	27.70	26.70	27.39	28.50	27.52	28.03	27.45	28.43
CaO	0.65	1.52	1.03	0.58	0.80	0.87	0.72	0.69	0.39	0.85	0.65	0.57	0.71	0.75	0.69	0.77	0.45	0.61	0.86
MnO	0.33	0.32	0.35	0.40	0.34	0.32	0.32	0.40	0.43	0.36	0.33	0.28	0.37	0.33	0.32	0.32	0.38	0.40	0.31
FeO	12.81	16.41	16.30	15.14	15.81	15.62	15.53	15.05	14.49	14.77	14.17	15.45	16.48	14.61	14.36	15.07	15.08	15.39	13.48
NiO	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.01	0.02	0.00	0.02	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.02	0.02	0.02	0.04
K2O	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00
Total	**98.99**	**98.67**	**98.50**	**99.58**	**99.05**	**99.89**	**99.54**	**100.07**	**100.69**	**99.13**	**100.74**	**100.76**	**100.24**	**98.99**	**100.44**	**100.11**	**100.05**	**99.03**	**98.82**
T																			
Si	1.97	1.97	1.97	1.96	1.95	1.96	1.95	1.96	1.96	1.94	1.95	1.96	1.95	1.96	1.95	1.95	1.98	1.95	1.94
Al IV	0.03	0.03	0.03	0.04	0.05	0.04	0.05	0.04	0.04	0.06	0.05	0.04	0.05	0.04	0.05	0.05	0.02	0.05	0.06
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.03	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.01	0.01	0.01
Fe3+	0.00	0.00	0.00	0.01	0.02	0.00	0.02	0.01	0.01	0.02	0.03	0.00	0.02	0.00	0.03	0.01	0.01	0.04	0.04
Ti4+	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01
Cr3+	0.002	0.000	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.001	0.001	0.002	0.003	0.000	0.000	0.002
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.97	0.97	0.96	0.95	0.96	0.95	0.96	0.97	0.95	0.95	0.97	0.95	0.96	0.95	0.96	0.98	0.95	0.94
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.58	0.42	0.44	0.51	0.50	0.48	0.51	0.52	0.56	0.53	0.57	0.51	0.48	0.52	0.56	0.52	0.52	0.54	0.58
Fe2+	0.39	0.50	0.50	0.45	0.46	0.47	0.45	0.44	0.42	0.43	0.39	0.46	0.48	0.44	0.40	0.44	0.45	0.42	0.37
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.06	0.04	0.02	0.03	0.03	0.03	0.03	0.01	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.02	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Wo (%)	1	3	2	1	2	2	1	1	1	2	1	1	1	1	1	2	1	1	2
En (%)	**79**	**71**	**72**	**75**	**73**	**74**	**74**	**75**	**77**	**75**	**77**	**75**	**73**	**75**	**77**	**75**	**76**	**75**	**77**
Fs (%)	20	26	26	24	25	25	24	23	22	23	22	24	26	23	22	24	23	24	21
Q	1.95	1.96	1.96	1.95	1.94	1.95	1.94	1.95	1.95	1.94	1.94	1.96	1.94	1.95	1.94	1.95	1.96	1.93	1.93
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	405	1	170	426	376	304	280	195	122	281	270	721	244	232	463	764	1	1	419
Ti (ppm)	1444	1904	1612	749	1233	2027	1433	919	327	1971	1160	1165	163	1904	1219	1719	632	375	1700
Mn (pmm)	2581	2471	2680	3062	2632	2484	2473	3088	3298	2787	2560	2162	2863	2574	2505	2455	2921	3085	2393
Mg#	**0.80**	**0.73**	**0.74**	**0.76**	**0.75**	**0.75**	**0.76**	**0.77**	**0.78**	**0.77**	**0.78**	**0.76**	**0.74**	**0.77**	**0.78**	**0.77**	**0.77**	**0.76**	**0.79**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	3	3	3	3	3	3	3	1	1	2	2	3	3	3	3	3	3	1	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb
CLASIF		Troct	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore												
DESCRIP	Opx intc (B)	Opx_O_OL (C)	Opx O Sulf ©	Opx O Sulf ©	Opx O Sulf ©	Opx O Sulf ©	Opx O Sulf (B)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx O Cpx©	Opx O Cpx (B)	Opx intc sulf ©	Opx intc sulf (B)	Opx intc ©	Opx intc (B)	Opx_O_Cpx (C)	Opx (C)
SAMPLE	SB-13	SB-17-E	SB-17C	SB-17C	SB-17C	SB-17E3	SB-17E3	CNT-22	CNT-22	CNT-28	CNT-28	SB-11	SB-11	SB-3	SB-3	SB-12	SB-12	CNT-21	SB-S3
Label	479 (4_2)	2576 [3-3]	578 (1_1)	578b (1_2)	579 (2_1)	569 (1_1)	570 (1_2)	1829 [1-7]	1830 [1-8]	1816 [2-1]	1817 [2-2]	434 (5_2)	435 (5_3)	460 (4_1)	461(4_2)	533 (7_1)	534 (7_2)	1745 [1-5]	2535 [1-4]
SiO2	53.93	54.45	54.41	54.36	55.40	54.04	54.46	53.12	53.00	53.09	53.04	54.52	55.03	53.79	54.38	54.23	53.90	54.35	54.27
TiO2	0.17	0.10	0.17	0.16	0.00	0.11	0.00	0.28	0.26	0.24	0.22	0.21	0.18	0.34	0.20	0.33	0.22	0.15	0.36
Al2O3	1.60	1.45	1.78	1.90	1.34	1.61	1.64	1.56	1.62	1.49	1.54	1.64	1.56	1.54	1.57	1.54	1.62	1.19	1.51
V2O3																			
Cr2O3	0.11	0.00	0.04	0.03	0.00	0.03	0.02	0.03	0.01	0.04	0.01	0.00	0.03	0.04	0.00	0.01	0.01	0.00	0.04
MgO	28.72	27.83	28.43	28.63	29.28	28.12	28.02	26.56	25.92	26.32	26.53	27.21	27.26	26.42	26.82	26.76	25.88	26.39	26.69
CaO	0.70	0.63	0.69	0.57	0.33	0.69	0.81	0.85	0.84	0.81	0.80	0.73	0.75	0.90	0.78	0.95	1.55	0.56	1.06
MnO	0.35	0.36	0.40	0.43	0.35	0.34	0.36	0.40	0.38	0.34	0.41	0.24	0.31	0.32	0.39	0.29	0.33	0.43	0.29
FeO	13.71	15.36	14.07	13.51	13.36	14.10	14.04	17.35	17.01	16.70	16.65	15.22	15.18	16.81	16.51	16.27	16.27	16.89	14.80
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.02	0.00	0.02	0.02	0.00	0.01	0.05	0.00	0.00	0.01	0.00	0.03	0.03	0.00	0.00	0.01	0.04	0.00	0.00
K2O	0.22	0.00	0.00	0.41	0.21	0.25	0.00	0.00	0.00	0.01	0.00	0.03	0.11	0.04	0.02	0.00	0.00	0.00	0.01
Total	**99.31**	**100.18**	**100.01**	**99.61**	**100.06**	**99.05**	**99.41**	**100.14**	**99.04**	**99.04**	**99.19**	**99.80**	**100.33**	**100.17**	**100.64**	**100.40**	**99.81**	**99.96**	**99.03**
T																			
Si	1.93	1.95	1.94	1.94	1.97	1.95	1.96	1.92	1.94	1.94	1.93	1.96	1.97	1.94	1.95	1.95	1.96	1.97	1.97
Al IV	0.07	0.05	0.06	0.06	0.03	0.05	0.04	0.07	0.06	0.06	0.07	0.04	0.03	0.06	0.05	0.05	0.04	0.03	0.03
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																			
Al VI	0.00	0.01	0.02	0.02	0.02	0.01	0.03	0.00	0.01	0.00	0.00	0.03	0.04	0.01	0.02	0.02	0.03	0.02	0.03
Fe3+	0.07	0.03	0.03	0.06	0.02	0.05	0.02	0.07	0.03	0.04	0.05	0.00	0.00	0.03	0.02	0.01	0.01	0.00	0.00
Ti4+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01
Cr3+	0.003	0.000	0.001	0.001	0.000	0.001	0.001	0.001	0.000	0.001	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.92	0.96	0.95	0.92	0.96	0.94	0.96	0.92	0.95	0.95	0.94	0.96	0.96	0.95	0.96	0.96	0.96	0.97	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																			
Mg2+	0.61	0.53	0.57	0.60	0.59	0.57	0.55	0.51	0.47	0.49	0.50	0.50	0.50	0.47	0.48	0.48	0.44	0.45	0.49
Fe2+	0.34	0.43	0.39	0.35	0.37	0.38	0.41	0.45	0.49	0.47	0.45	0.46	0.45	0.48	0.48	0.48	0.49	0.51	0.45
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.02	0.03	0.02	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.06	0.02	0.04
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**0.99**	**1.00**	**1.00**	**0.98**	**0.99**	**0.99**	**1.00**	**1.01**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**
Wo (%)	1	1	1	1	1	1	2	2	2	2	2	1	1	2	2	2	3	1	2
En (%)	**77**	**75**	**77**	**78**	**79**	**77**	**76**	**72**	**71**	**72**	**72**	**75**	**75**	**72**	**73**	**73**	**71**	**72**	**74**
Fs (%)	21	24	22	21	21	22	22	27	27	26	26	24	24	26	26	25	26	27	24
Q	1.90	1.94	1.93	1.89	1.94	1.91	1.94	1.92	1.94	1.93	1.93	1.95	1.94	1.94	1.94	1.95	1.95	1.96	1.93
J	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Cr (ppm)	768	1	278	174	1	198	140	194	73	256	73	1	187	253	23	35	57	1	270
Ti (ppm)	1002	611	1010	929	1	629	1	1668	1546	1447	1336	1285	1090	2048	1180	1987	1323	914	2169
Mn (pmm)	2673	2755	3122	3334	2734	2596	2756	3121	2979	2659	3199	1854	2433	2512	3042	2208	2574	3356	2276
Mg#	**0.79**	**0.76**	**0.78**	**0.79**	**0.80**	**0.78**	**0.78**	**0.73**	**0.73**	**0.74**	**0.74**	**0.76**	**0.76**	**0.74**	**0.74**	**0.75**	**0.74**	**0.74**	**0.76**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	3	3	3	3	3	3	0	0	0	0	3	3	3	3	3	3
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	(SB I)	(SB I)	(SB I)	(SB I)	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	BG	BG	BG	BG	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Cum	Cum	Cum	Cum	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF							Troct	Troct	Troct	Troct						
DESCRIP	Opx (M)	Opx (B)	Opx intc (C)	Opx intc (B)	Opx oicocx (C)	Opx oicocox	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx_O_Ol (C)	Opx_O_C px (C)	Opx_O_C px (B)	Opx_O_C px (C)	Opx_O_C px (B)	Opx oicocx (C)	Opx oicocx (B)
SAMPLE	SB-S3	SB-S3	SB-S3	SB-S3	SB-S5	SB-S5	FA-4	FA-4	FA-5	FA-5	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3B	CNT-3B
Label	2536 [1-5]	2537 [1-6]	2544 [3-3]	2545 [3-4]	2558 [3-1]	2559 [3-2]	1278 [11-3]	1279 [11-4]	1665 [2-3]	1683 [5-3]	2409 [2-3]	2410 [2-4]	2415 [5-1]	2416 [5-2]	2495 [3-1]	2496 [3-2]
SiO2	53.84	54.26	53.50	54.60	54.15	53.98	56.90	56.48	56.89	56.74	54.23	54.52	54.34	54.00	54.24	54.34
TiO2	0.36	0.29	0.25	0.25	0.27	0.29	0.15	0.17	0.08	0.07	0.19	0.21	0.26	0.26	0.33	0.35
Al2O3	1.51	1.58	1.32	1.38	1.46	1.43	1.50	1.44	1.73	1.46	1.80	1.65	1.81	1.85	1.54	1.68
V2O3																
Cr2O3	0.04	0.00	0.03	0.03	0.03	0.03	0.10	0.16	0.07	0.04	0.04	0.04	0.00	0.08	0.03	0.02
MgO	26.77	27.02	26.99	27.02	28.60	28.23	32.90	32.36	33.09	33.52	26.35	27.03	26.52	26.15	26.99	26.60
CaO	1.20	0.84	0.82	0.92	1.01	0.98	0.49	0.59	0.54	0.50	0.81	0.58	0.78	0.68	0.78	0.81
MnO	0.36	0.30	0.31	0.32	0.35	0.28	0.24	0.24	0.16	0.18	0.28	0.28	0.34	0.27	0.27	0.30
FeO	15.06	15.10	15.58	15.64	14.69	14.82	8.42	8.35	8.23	7.89	16.37	15.74	15.43	16.13	15.54	15.80
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																
Na2O	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.01	0.00	0.00	0.02
K2O	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**99.14**	**99.41**	**98.83**	**100.15**	**100.57**	**100.05**	**100.69**	**99.80**	**100.83**	**100.41**	**100.06**	**100.06**	**99.50**	**99.42**	**99.74**	**99.93**
T																
Si	1.96	1.96	1.95	1.97	1.93	1.93	1.97	1.97	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96
Al IV	0.04	0.04	0.05	0.03	0.06	0.06	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04
Fe3+	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1																
Al VI	0.02	0.03	0.01	0.02	0.00	0.00	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.04	0.03	0.03
Fe3+	0.00	0.00	0.03	0.00	0.07	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Cr3+	0.001	0.000	0.001	0.001	0.001	0.001	0.003	0.005	0.002	0.001	0.001	0.001	0.000	0.002	0.001	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.96	0.96	0.97	0.92	0.93	0.97	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2																
Mg2+	0.48	0.50	0.51	0.48	0.59	0.57	0.73	0.72	0.74	0.76	0.46	0.49	0.48	0.47	0.49	0.47
Fe2+	0.46	0.46	0.45	0.47	0.37	0.39	0.24	0.24	0.23	0.21	0.49	0.47	0.47	0.49	0.47	0.48
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.05	0.03	0.03	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.03	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	**1.00**	**1.00**	**1.00**	**1.00**	**1.01**	**1.01**	**1.00**	**0.99**	**1.00**	**1.00**	**1.00**	**1.00**	**0.99**	**0.99**	**1.00**	**0.99**
Wo (%)	2	2	2	2	2	2	1	1	1	1	2	1	2	1	2	2
En (%)	**74**	**75**	**74**	**74**	**76**	**75**	**86**	**86**	**87**	**87**	**73**	**74**	**74**	**73**	**74**	**73**
Fs (%)	24	24	24	24	22	23	13	13	12	12	26	25	25	26	24	25
Q	1.96	1.95	1.94	1.96	1.92	1.93	1.96	1.95	1.95	1.95	1.95	1.95	1.93	1.93	1.95	1.94
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	246	1	220	172	218	218	653	1117	486	249	294	283	12	566	233	159
Ti (ppm)	2135	1755	1525	1484	1598	1751	916	1035	480	418	1152	1237	1584	1580	2005	2081
Mn (pmm)	2817	2295	2417	2505	2697	2196	1821	1866	1274	1408	2141	2201	2666	2081	2081	2333
Mg#	**0.76**	**0.76**	**0.76**	**0.75**	**0.78**	**0.77**	**0.87**	**0.87**	**0.88**	**0.88**	**0.74**	**0.75**	**0.75**	**0.74**	**0.76**	**0.75**

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	2	2	2	3	3	3	3	1	2	2	3	3	0	0	0	0	0	0	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Low	Low	Low	Low	Low	Low	Low
UNIT	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog I	Ol Leucog I
CLASIF													Cpxnt	Cpxnt	Cpxnt	Cpxnt	Cpxnt	Ol Leucog core	Ol Leucog core
DESCRIP	Opx_O_Sulf (C)	Opx_O_Sulf (B)	Opx_O_Cpx (C)	Opx_O_Oxd (C)	Opx_O_Oxd (B)	Opx_O_Sulf (C)	Opx_O_Sulf (C)	Opx_O_All (C)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx inc Cpx (C)	Opx inc Cpx (C)	Opx cum (C)	Opx cum (B)	Opx inc Cpx (C)	Opx_O_Ol (C)	Opx_O_Ol (B)
SAMPLE	CNT-2	CNT-2	CNT-2	CNT-29	CNT-29	CNT-29	CNT-29	CNT-9	CNT-1	CNT-1	CNT-30	CNT-30	FG-8	FG-8	FG-8	FG-8	FG-8	FG-5	FG-5
Label	1284 [1-5]	1285 [1-6]	1290 [3-5]	1313 [3-4]	1314 [3-5]	1318 [1-8]	1319 [1-9]	1528 [3-7]	1515 [4-1]	1516 [4-2]	1572 [4-5]	1573 [4-6]	2037 [1-1]	2038 [1-2]	2041[1-1]	2042 [1-2]	2045 [3-1]	1970 [5-3]	1971[5-4]
SiO2	53.90	54.21	54.91	52.70	54.21	53.85	53.92	54.70	55.66	55.85	55.01	55.06	54.27	53.99	53.74	53.46	54.77	54.40	54.72
TiO2	0.33	0.24	0.22	0.28	0.23	0.32	0.15	0.14	0.19	0.16	0.28	0.20	0.18	0.26	0.25	0.31	0.29	0.27	0.16
Al2O3	1.62	1.59	1.54	1.66	0.99	1.58	1.59	1.58	1.27	1.38	1.47	1.38	1.60	1.65	1.33	1.39	1.06	1.70	1.65
V2O3																			
Cr2O3	0.09	0.04	0.10	0.08	0.07	0.04	0.02	0.03	0.02	0.08	0.03	0.04	0.09	0.09	0.07	0.07	0.07	0.02	0.02
MgO	26.58	26.55	27.27	26.46	27.04	26.78	27.29	26.98	27.67	27.72	25.72	25.59	26.83	25.97	26.48	26.12	26.08	26.36	26.90
CaO	0.85	0.65	0.61	0.66	0.55	1.18	0.48	0.59	0.71	0.49	0.89	0.65	0.60	1.26	0.72	0.84	0.81	0.90	0.57
MnO	0.53	0.44	0.39	0.42	0.41	0.39	0.34	0.35	0.38	0.33	0.44	0.43	0.41	0.32	0.35	0.37	0.34	0.30	0.34
FeO	15.22	15.39	15.26	15.96	16.33	14.97	15.80	15.52	13.98	13.90	17.67	18.21	16.83	16.12	16.08	15.95	17.84	16.65	16.16
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
ZnO																			
Na2O	0.00	0.00	0.00	0.02	0.00	0.03	0.01	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.02	0.01	0.01	0.00	0.00
K2O	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.02	0.03	0.00	0.01	0.01
Total	99.12	99.11	100.29	98.24	99.83	99.13	99.61	99.88	99.87	99.92	101.50	101.60	100.80	99.66	99.03	98.51	101.28	100.59	100.53
T																			
Si	1.96	1.97	1.97	1.94	1.96	1.96	1.95	1.97	1.99	1.99	1.97	1.97	1.95	1.96	1.96	1.96	1.97	1.96	1.96
Al IV	0.04	0.03	0.03	0.06	0.04	0.04	0.05	0.03	0.01	0.01	0.03	0.03	0.05	0.04	0.04	0.04	0.03	0.04	0.04
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.03	0.04	0.03	0.01	0.00	0.02	0.02	0.04	0.04	0.05	0.03	0.03	0.02	0.03	0.02	0.02	0.01	0.03	0.03
Fe3+	0.00	0.00	0.00	0.04	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00
Ti4+	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.00
Cr3+	0.003	0.001	0.003	0.002	0.002	0.001	0.001	0.001	0.000	0.002	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.96	0.95	0.96	0.94	0.97	0.96	0.95	0.96	0.95	0.94	0.96	0.96	0.95	0.96	0.97	0.97	0.98	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.48	0.48	0.50	0.51	0.49	0.49	0.52	0.49	0.52	0.53	0.41	0.41	0.48	0.45	0.47	0.46	0.42	0.45	0.48
Fe2+	0.46	0.47	0.46	0.45	0.48	0.45	0.45	0.47	0.42	0.41	0.53	0.55	0.48	0.49	0.48	0.49	0.54	0.50	0.49
Mn2+	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.03	0.02	0.03	0.02	0.05	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.05	0.03	0.03	0.03	0.03	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.99	0.98	0.97	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	2	1	1	1	1	2	1	1	1	1	2	1	1	3	1	2	2	2	1
En (%)	74	74	75	73	73	74	74	74	76	77	70	70	73	72	73	73	71	72	74
Fs (%)	25	25	24	25	26	24	25	25	22	22	28	29	26	26	25	26	28	26	25
Q	1.94	1.93	1.94	1.93	1.96	1.95	1.94	1.94	1.92	1.91	1.94	1.94	1.94	1.94	1.95	1.95	1.96	1.95	1.95
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	612	269	650	572	499	244	146	183	111	565	182	255	586	588	454	478	465	122	159
Ti (ppm)	1974	1454	1337	1666	1358	1924	925	825	1110	984	1665	1222	1060	1562	1477	1857	1709	1647	987
Mn (pmm)	4139	3421	3020	3255	3178	3017	2662	2689	2932	2556	3374	3306	3178	2457	2673	2876	2624	2357	2609
Mg#	0.76	0.75	0.76	0.75	0.75	0.76	0.75	0.76	0.78	0.78	0.72	0.71	0.74	0.74	0.75	0.74	0.72	0.74	0.75

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	0	0	0	0	0	1	1	1	1	2	2	3	3	3	1	1	0	0	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb II	Px Gb II	Px Gb II
CLASIF	Ol Leucog core	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim	Noritic Gb rim														
DESCRIP	Opx_O_Ol (C)	Opx intc (C)	Opx intc (B)	Opx intc (C)	Opx intc (B)	Opx (C)	Opx (B)	Opx (C)	Opx (B)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx intc (C)	Opx intc (B)	Opx_O_Sulf (C)	Opx_O_Sulf (B)	Opx_O_Oxd (C)	Opx_O_Oxd (B)	Opx intc (C)
SAMPLE	FG-5	FG-4	FG-4	FG-4	FG-4	CNT-11	CNT-11	CNT-11	CNT-11	MB-4	MB-4	CNT-7	CNT-7	CNT-7	MB-1	MB-1	FG-3	FG-3	FG-3
Label	1975 [6-4]	1890 [1-1]	1891 [1-2]	1902 [3-1]	1903 [3-2]	1628 [1-5]	1629 [1-6]	1636 [2-5]	1637 [2-6]	1844 [1-3]	1845 [1-4]	1606 [1-5]	1622 [4-1]	1623 [4-2]	1859 [3-11]	1860 [3-12]	1931 [1-5]	1932 [1-6]	1950 [5-1]
SiO2	54.13	54.45	54.88	54.07	54.56	54.78	54.45	53.96	54.36	54.49	54.40	55.49	55.60	55.96	52.65	53.50	53.99	55.00	54.61
TiO2	0.19	0.35	0.18	0.25	0.26	0.29	0.30	0.22	0.19	0.23	0.20	0.10	0.22	0.12	0.27	0.29	0.29	0.18	0.25
Al2O3	1.61	1.69	1.44	1.68	1.64	1.64	1.68	1.55	1.52	1.57	1.50	1.64	1.54	1.28	2.35	1.69	1.69	1.61	1.25
V2O3																			
Cr2O3	0.00	0.01	0.00	0.02	0.04	0.00	0.00	0.03	0.00	0.05	0.04	0.01	0.05	0.00	0.12	0.07	0.03	0.00	0.02
MgO	26.60	26.32	26.64	26.62	26.69	26.79	26.72	26.46	26.99	28.06	28.49	28.79	29.26	29.26	26.03	27.85	26.62	26.77	27.06
CaO	0.65	1.01	0.67	0.84	0.79	0.83	0.83	0.78	0.74	0.73	0.59	0.52	0.61	0.42	1.79	0.63	0.79	0.56	0.71
MnO	0.41	0.33	0.39	0.39	0.33	0.36	0.31	0.33	0.37	0.33	0.37	0.29	0.34	0.33	0.32	0.42	0.32	0.34	0.34
FeO	16.13	16.82	16.43	16.43	16.20	16.34	16.50	16.87	16.71	14.93	15.10	12.97	13.15	13.20	15.00	15.07	15.58	15.55	16.77
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.03	0.00	0.01	0.01	0.00	0.00	0.03	0.00	0.02	0.00	0.01	0.02	0.00	0.02	0.01	0.03	0.00	0.01
K2O	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Total	99.72	101.02	100.62	100.31	100.52	101.05	100.80	100.24	100.88	100.40	100.69	99.82	100.79	100.57	98.55	99.54	99.35	100.01	101.03
T																			
Si	1.96	1.95	1.97	1.95	1.96	1.96	1.95	1.95	1.95	1.95	1.94	1.97	1.96	1.98	1.93	1.93	1.96	1.98	1.95
Al IV	0.04	0.05	0.03	0.05	0.04	0.04	0.05	0.05	0.05	0.05	0.06	0.03	0.04	0.02	0.07	0.07	0.04	0.02	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.01	0.01	0.00	0.04	0.03	0.03	0.03	0.00	0.03	0.05	0.01
Fe3+	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.03	0.03	0.05	0.00	0.00	0.00	0.03	0.05	0.00	0.00	0.02
Ti4+	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00	0.01
Cr3+	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.002	0.001	0.000	0.002	0.000	0.003	0.002	0.001	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.95	0.96	0.97	0.93	0.94	0.96	0.95	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.47	0.45	0.46	0.47	0.47	0.47	0.47	0.47	0.49	0.54	0.57	0.57	0.58	0.58	0.49	0.56	0.48	0.48	0.48
Fe2+	0.49	0.50	0.49	0.48	0.49	0.49	0.49	0.49	0.47	0.42	0.40	0.39	0.39	0.39	0.43	0.40	0.47	0.47	0.48
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.07	0.02	0.03	0.02	0.03
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99	1.00	1.00	1.00	0.98	1.00
Wo (%)	1	2	1	2	2	2	2	2	1	1	1	1	1	1	4	1	2	1	1
En (%)	73	72	73	73	73	73	73	72	73	76	76	79	79	79	72	75	74	74	73
Fs (%)	26	26	26	26	25	25	26	26	26	23	23	20	20	20	24	23	25	25	26
Q	1.95	1.95	1.95	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.93	1.93	1.95	1.95	1.92	1.92	1.94	1.92	1.95
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	1	73	1	147	294	25	12	207	1	367	269	49	369	1	796	465	233	1	135
Ti (ppm)	1162	2115	1055	1520	1562	1719	1809	1335	1131	1376	1203	581	1325	743	1643	1757	1767	1070	1519
Mn (pmm)	3142	2547	3003	3039	2566	2814	2439	2580	2855	2550	2880	2281	2629	2550	2462	3277	2495	2611	2653
Mg#	0.75	0.74	0.74	0.74	0.75	0.75	0.74	0.74	0.74	0.77	0.77	0.80	0.80	0.80	0.76	0.77	0.75	0.75	0.74

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	0	1	1	1	1	1	1	1	1	2	2	2	3	3	3	0	0	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF		Porh Gb	Porh Gb													Trcot	Trcot		
DESCRIP	Opx intc (B)	Opx oicocx (C)	Opx Oicocx (B)	Opx oicocx (C)	Opx Oicocx (B)	Opx cum ©	Opx Poik (C)	Opx Poik (B)	Opx Poik (B)	Opx_O_Cpx (C)	Opx_O_Cpx (C)	Opx_O_Cpx (B)	Opx_O_Ol (C)	Opx oicocx (C)	Opx oicocx (B)	Opx_O_OL (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx_O_Ol (B)
SAMPLE	FG-3	CNT-12	CNT-12	CNT-14	CNT-14	CNT-14	CNT-14	CNT-14	CNT-14	CNT-32	CNT-32	CNT-32	CNT-6A	CNT-6A	CNT-6A	MB-16	MB-16	CNT-13	CNT-13
Label	1951[5-2]	1661[6-1]	1662 [6-2]	1720 [4-2]	1721[4-3]	1717 [3-6]	1724 [5-5]	1725 [5-6]	1726 [5-7]	1766 [2-4]	1769 [3-3]	1770 [3-4]	1588 [1-8]	1600 [3-5]	1601[3-6]	2273 [4-3]	2274 [4-4]	2059 [2-16]	2060 [2-17]
SiO2	53.78	54.77	54.27	54.67	54.87	54.32	54.19	53.92	53.72	53.47	54.86	54.27	54.84	54.61	54.64	54.55	55.49	54.32	54.46
TiO2	0.19	0.36	0.25	0.22	0.24	0.20	0.23	0.31	0.30	0.14	0.25	0.22	0.12	0.31	0.30	0.25	0.15	0.09	0.11
Al2O3	1.33	1.73	1.68	1.57	1.69	1.49	1.55	1.62	1.74	1.51	1.43	1.52	1.77	1.72	1.73	1.81	1.66	1.35	1.63
V2O3																			
Cr2O3	0.00	0.04	0.02	0.11	0.05	0.09	0.05	0.09	0.03	0.09	0.06	0.07	0.05	0.17	0.04	0.01	0.09	0.01	0.05
MgO	25.85	27.41	27.31	27.67	27.78	26.45	27.51	26.98	26.61	26.27	26.76	26.66	28.05	27.44	27.50	29.52	29.65	28.26	27.72
CaO	0.43	0.95	0.73	0.68	0.68	0.70	0.69	0.81	0.78	0.59	0.62	0.67	0.54	1.04	0.76	0.60	0.54	0.50	0.62
MnO	0.45	0.41	0.42	0.32	0.33	0.41	0.35	0.33	0.34	0.39	0.26	0.36	0.28	0.28	0.39	0.22	0.26	0.38	0.31
FeO	17.89	14.96	14.95	14.97	15.02	15.59	14.38	15.23	15.15	16.41	14.90	15.11	14.67	13.71	13.80	13.06	12.77	14.46	14.35
NiO	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.00	0.02	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.05	0.03	0.03	0.02	0.00	0.01
K2O	0.01	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Total	99.92	100.62	99.65	100.26	100.66	99.31	98.96	99.28	98.68	98.90	99.14	98.96	100.31	99.33	99.20	100.05	100.63	99.36	99.27
T																			
Si	1.96	1.96	1.96	1.96	1.96	1.97	1.96	1.96	1.96	1.96	1.98	1.97	1.96	1.97	1.97	1.94	1.96	1.96	1.96
Al IV	0.04	0.04	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.04	0.02	0.03	0.04	0.03	0.03	0.06	0.04	0.04	0.04
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.02	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.01	0.03	0.01	0.03
Fe3+	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.03	0.00
Ti4+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.00
Cr3+	0.000	0.001	0.001	0.003	0.001	0.003	0.002	0.003	0.001	0.003	0.002	0.002	0.001	0.005	0.001	0.000	0.003	0.000	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.95	0.95	0.96	0.95	0.95	0.94	0.96	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.44	0.50	0.51	0.52	0.52	0.47	0.52	0.50	0.49	0.47	0.50	0.49	0.53	0.52	0.53	0.62	0.60	0.56	0.53
Fe2+	0.53	0.45	0.45	0.44	0.45	0.47	0.44	0.46	0.46	0.49	0.45	0.46	0.44	0.41	0.42	0.35	0.37	0.41	0.43
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.02	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.03	0.02	0.02	0.02	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.98	0.99	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Wo (%)	1	2	1	1	1	1	1	2	2	1	1	1	1	2	2	1	1	1	1
En (%)	71	75	75	75	75	74	76	74	74	73	75	74	76	76	76	79	79	76	76
Fs (%)	28	23	24	23	23	25	23	24	24	26	24	24	23	22	22	20	20	23	23
Q	1.95	1.94	1.95	1.95	1.95	1.93	1.95	1.95	1.94	1.95	1.92	1.93	1.95	1.92	1.92	1.93	1.95	1.95	1.95
J	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	1	246	135	726	308	645	367	610	171	595	441	465	344	1173	247	86	627	49	309
Ti (ppm)	1144	2167	1495	1330	1439	1225	1363	1846	1810	826	1501	1328	695	1841	1802	1492	902	527	662
Mn (pmm)	3461	3141	3284	2453	2575	3178	2746	2535	2656	3012	1975	2812	2160	2166	3054	1718	1999	2916	2421
Mg#	0.72	0.77	0.77	0.77	0.77	0.75	0.77	0.76	0.76	0.74	0.76	0.76	0.77	0.78	0.78	0.80	0.81	0.78	0.77

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	1	1	2	2	2	2	1	1	2	2	1	1	1	1	2	2	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF																			Transition
DESCRIP	Opx_O_Oxd (C)	Opx_O_Oxd (B)	Opx_O_Cpx (C)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx intc (C)	Opx intc (B)	Opx_O_Cpx (C)	Opx_O_Cpx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx_O_Cpx (C)	Opx_O_Cpx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx oicocx (C)
SAMPLE	CNT-13	CNT-13	CNT-31	CNT-31	CNT-31	CNT-31	CNT-33	CNT-33	CNT-36	CNT-36	CNT-34	CNT-34	CNT-34	CNT-34	CNT-35	CNT-35	CNT-35	CNT-35	CNT-4
Label	2061[2-3]	2062[2-4]	2024 [3-4]	2029 [1-3]	2030 [1-4]	2036 [4-3]	2083 [3-3]	2084 [3-4]	2186 [2-7]	2187 [2-8]	2134 [3-1]	2135 [3-2]	2139 [4-4]	2140 [4-5]	2173 [4-1]	2174 [4-2]	2182 [5-8]	2183 [5-9]	2335 [3-1]
SiO2	55.50	55.11	53.49	54.47	54.26	54.52	54.24	54.33	53.94	53.59	55.10	55.13	54.21	54.05	54.55	54.07	54.18	54.13	54.12
TiO2	0.09	0.10	0.17	0.14	0.18	0.13	0.25	0.27	0.17	0.23	0.17	0.22	0.26	0.25	0.19	0.14	0.26	0.23	0.13
Al2O3	0.93	1.43	1.69	1.70	1.71	1.60	1.70	1.70	1.66	1.63	1.61	1.75	1.92	1.71	1.53	1.66	1.97	1.80	1.45
V2O3																			
Cr2O3	0.00	0.04	0.04	0.04	0.02	0.07	0.10	0.14	0.09	0.16	0.16	0.21	0.12	0.18	0.11	0.05	0.08	0.06	0.04
MgO	28.70	27.98	26.55	27.86	27.97	27.84	27.15	27.06	27.77	27.38	29.41	29.04	28.95	28.49	27.51	26.91	26.90	26.43	27.25
CaO	0.40	0.57	0.66	0.71	0.83	0.64	0.73	0.83	0.57	0.71	0.58	0.58	0.71	0.76	0.75	0.79	0.89	0.74	0.57
MnO	0.33	0.35	0.42	0.32	0.37	0.34	0.31	0.31	0.37	0.36	0.27	0.28	0.31	0.24	0.33	0.34	0.31	0.31	0.39
FeO	14.86	14.99	16.19	14.46	14.76	14.95	15.56	16.09	15.28	14.91	13.71	13.61	12.63	13.05	15.76	16.10	15.37	16.62	15.56
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.00	0.00	0.01	0.00	0.05	0.02	0.00	0.02	0.03	0.04	0.00	0.02	0.02	0.04	0.00	0.00	0.00	0.02	0.00
K2O	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Total	100.79	100.57	99.23	99.69	100.15	100.11	100.03	100.75	99.87	99.00	100.99	100.86	99.12	98.77	100.72	100.07	99.97	100.34	99.50
T																			
Si	1.97	1.97	1.95	1.96	1.94	1.95	1.95	1.95	1.94	1.94	1.94	1.95	1.94	1.95	1.95	1.95	1.95	1.95	1.96
Al IV	0.03	0.03	0.05	0.04	0.06	0.05	0.05	0.05	0.06	0.06	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.05	0.04
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.01	0.03	0.02	0.03	0.01	0.02	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.02
Fe3+	0.01	0.00	0.02	0.00	0.04	0.02	0.00	0.02	0.04	0.03	0.03	0.01	0.02	0.01	0.02	0.02	0.00	0.00	0.01
Ti4+	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00
Cr3+	0.000	0.001	0.001	0.001	0.000	0.002	0.003	0.004	0.002	0.005	0.005	0.006	0.003	0.005	0.003	0.001	0.002	0.002	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.97	0.97	0.95	0.96	0.94	0.96	0.96	0.95	0.94	0.95	0.95	0.95	0.95	0.95	0.96	0.95	0.95	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.55	0.52	0.49	0.53	0.55	0.53	0.50	0.49	0.55	0.53	0.60	0.58	0.60	0.58	0.51	0.49	0.49	0.46	0.51
Fe2+	0.43	0.45	0.47	0.43	0.40	0.43	0.46	0.46	0.42	0.43	0.37	0.39	0.36	0.38	0.45	0.47	0.46	0.50	0.46
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.02	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	1	1	1	1	2	1	1	2	1	1	1	1	1	2	1	2	2	1	1
En (%)	77	76	73	76	75	75	74	73	75	75	78	78	79	78	74	73	74	72	74
Fs (%)	23	23	26	23	23	23	24	25	24	24	21	21	20	20	24	25	24	26	24
Q	1.96	1.96	1.94	1.95	1.93	1.94	1.95	1.94	1.93	1.93	1.94	1.94	1.94	1.94	1.95	1.94	1.94	1.95	1.95
J	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cr (ppm)	1	258	294	246	110	467	650	967	601	1082	1110	1420	791	1197	738	331	577	379	270
Ti (ppm)	522	575	1023	842	1081	775	1490	1612	1022	1371	1041	1341	1548	1511	1136	841	1556	1370	776
Mn (pmm)	2526	2704	3271	2444	2833	2663	2389	2426	2828	2800	2066	2192	2405	1871	2522	2656	2419	2367	3017
Mg#	0.77	0.77	0.75	0.77	0.77	0.77	0.76	0.75	0.76	0.77	0.79	0.79	0.80	0.80	0.76	0.75	0.76	0.74	0.76

Table C.3- EPMA results for orthopyroxene (cont)

PROFILE	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb	PxPorpn Gb
CLASIF	Transition	Transition	Transition	Transition	Transition	Transition	Transition												
DESCRIP	Opx oicocx (B)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx_O_Ol (B)	Opx_O_Ol (C)	Opx_Ol (C)	Opx oicocx (C)	Opx oicocx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx oicocx (B)	Opx Oiccocx (B)	Opx oicocx (C)	Opx oicocx (B)	Opx intc (C)	Opx intc (B)
SAMPLE	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	MB-11	MB-11	MB-11	MB-11	MB-13	MB-13	CNT-5A	CNT-5A	CNT-5A	CNT-5A	CNT-5B	CNT-5B
Label	2336 [3-2]	2339 [4-3]	2340 [4-4]	2343 [5-3]	2344 [5-4]	2346 [6-3]	2360 [8-3]	2428 [2-1]	2429 [2-2]	2434 [3-5]	2435 [3-6]	2524 [2-4]	2525 [2-5]	2379 [3-7]	2380 [3-8]	2388 [4-5]	2389 [4-6]	2510 [3-6]	2511[3-7]
SiO2	54.17	55.18	54.10	54.10	54.46	54.62	55.76	54.74	54.83	54.66	54.31	54.66	53.92	54.87	55.36	53.92	54.08	54.86	55.17
TiO2	0.25	0.28	0.21	0.25	0.14	0.13	0.08	0.21	0.22	0.24	0.27	0.24	0.35	0.21	0.13	0.21	0.21	0.16	0.15
Al2O3	1.65	1.82	1.69	1.93	1.74	1.71	1.71	1.46	1.74	1.54	1.77	1.77	2.08	1.87	1.47	1.91	1.99	1.80	1.74
V2O3																			
Cr2O3	0.04	0.01	0.07	0.03	0.02	0.08	0.04	0.05	0.07	0.03	0.00	0.07	0.14	0.14	0.10	0.23	0.16	0.07	0.03
MgO	27.69	28.06	27.70	27.86	28.19	28.17	28.64	27.69	27.05	27.27	27.44	27.23	27.20	28.44	28.80	27.90	28.12	28.60	28.61
CaO	0.81	0.90	0.68	0.87	0.56	0.52	0.55	0.84	0.59	0.73	0.73	0.64	0.95	0.85	0.51	0.80	0.67	0.63	0.54
MnO	0.34	0.29	0.26	0.21	0.29	0.28	0.24	0.31	0.26	0.27	0.19	0.33	0.32	0.32	0.32	0.28	0.29	0.27	0.27
FeO	15.19	14.35	14.39	14.23	14.17	14.30	14.09	14.99	16.26	15.10	15.04	15.27	15.24	13.77	13.52	14.16	13.91	13.60	14.07
NiO	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO																			
Na2O	0.02	0.00	0.00	0.03	0.00	0.02	0.01	0.00	0.00	0.03	0.00	0.05	0.02	0.01	0.01	0.00	0.04	0.00	0.03
K2O	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.16	100.92	99.10	99.51	99.57	99.83	101.12	100.29	101.02	99.87	99.75	100.25	100.21	100.48	100.23	99.40	99.47	99.99	100.60
T																			
Si	1.94	1.96	1.96	1.95	1.96	1.96	1.97	1.96	1.96	1.97	1.96	1.96	1.94	1.95	1.97	1.94	1.94	1.96	1.96
Al IV	0.06	0.04	0.04	0.05	0.04	0.04	0.03	0.04	0.04	0.03	0.04	0.04	0.06	0.05	0.03	0.06	0.06	0.04	0.04
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
M1																			
Al VI	0.01	0.03	0.03	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.02	0.03	0.03	0.03
Fe3+	0.03	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.01	0.00	0.00
Ti4+	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00
Cr3+	0.001	0.000	0.002	0.001	0.001	0.002	0.001	0.001	0.002	0.001	0.000	0.002	0.004	0.004	0.003	0.007	0.005	0.002	0.001
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.95	0.96	0.96	0.95	0.96	0.96	0.96	0.97	0.96	0.96	0.96	0.96	0.94	0.96	0.96	0.95	0.95	0.96	0.96
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
M2																			
Mg2+	0.53	0.53	0.53	0.54	0.55	0.55	0.55	0.51	0.48	0.50	0.51	0.50	0.51	0.55	0.56	0.55	0.56	0.56	0.55
Fe2+	0.42	0.43	0.43	0.41	0.42	0.42	0.42	0.45	0.49	0.45	0.45	0.46	0.44	0.40	0.40	0.41	0.40	0.41	0.42
Mn2+	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ca2+	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.02	0.04	0.03	0.02	0.03	0.03	0.02	0.02
Na+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M2	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Wo (%)	2	2	1	2	1	1	1	2	1	1	1	1	2	2	1	2	1	1	1
En (%)	75	76	76	76	77	77	77	75	74	75	75	75	74	77	78	76	77	78	77
Fs (%)	24	22	23	22	22	22	22	23	25	24	23	24	24	21	21	22	22	21	22
Q	1.94	1.94	1.95	1.94	1.95	1.95	1.94	1.96	1.95	1.95	1.95	1.94	1.93	1.95	1.95	1.94	1.94	1.95	1.95
J	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Cr (ppm)	295	86	455	197	160	543	297	359	467	185	1	504	935	938	692	1570	1123	482	185
Ti (ppm)	1510	1707	1232	1503	860	758	495	1240	1345	1440	1634	1432	2112	1261	758	1256	1286	968	920
Mn (pmm)	2670	2230	2035	1636	2265	2184	1849	2375	2012	2116	1446	2558	2452	2474	2516	2169	2232	2118	2080
Mg#	0.76	0.78	0.77	0.78	0.78	0.78	0.78	0.77	0.75	0.76	0.76	0.76	0.76	0.79	0.79	0.78	0.78	0.79	0.78

Table C.4- EPMA results for plagioclase.

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Pl ©	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl O-Ol (C)	Pl O-Ol (B)	Pl (C)	Pl (B)	Pl def C (C)
SAMPLE	**RS-6**	**RS-6**	**RS-6**	**RS-6**	**RS-6**	**RS-7**	**RS-7**	**RS-7**	**RS-7**	**RS-7**	**RS-7**	**RS-9**	**RS-9**	**RS-9**	**RS-9**	**RS-9**
Label	246 (6_3)	632 (2_6)	633 (2_7)	634 (4_4)	635 (4_5)	1171[1-6]	1172 [1-7]	1176 [2-4]	1177 [2-5]	1178 [2-6]	1179 [2-7]	279 (9_3)	280 (9_4)	636 (6_5)	637 (6_6)	638 (7_5)
SiO2	47.02	47.23	45.85	46.23	45.02	46.49	45.87	46.64	45.45	46.20	46.23	49.13	51.36	49.47	51.31	49.38
Al2O3	34.34	33.33	34.49	33.98	34.34	33.90	35.22	34.29	34.96	34.79	35.35	32.47	31.29	32.64	31.91	33.29
FeO(t)	0.25	0.16	0.18	0.14	0.12	0.03	0.14	0.16	0.16	0.12	0.10	0.11	0.14	0.13	0.03	0.10
CaO	16.69	16.15	16.62	16.74	17.82	16.55	17.17	16.53	17.17	16.96	17.49	14.83	13.02	14.84	13.86	15.28
Na2O	1.83	1.98	1.45	1.58	1.20	1.62	1.28	1.94	1.37	1.57	1.30	2.76	3.71	2.86	3.49	2.72
K2O	0.02	0.04	0.00	0.17	0.03	0.00	0.02	0.03	0.01	0.00	0.00	0.03	0.05	0.00	0.02	0.03
total	**100.14**	**98.89**	**98.59**	**98.84**	**98.53**	**98.59**	**99.70**	**99.59**	**99.12**	**99.65**	**100.47**	**99.34**	**99.56**	**99.95**	**100.62**	**100.80**
Atoms per formula unit																
Si	8.61	8.74	8.53	8.59	8.42	8.64	8.44	8.59	8.42	8.51	8.45	9.02	9.35	9.02	9.26	8.94
Al	7.41	7.27	7.56	7.44	7.57	7.42	7.64	7.44	7.64	7.55	7.61	7.02	6.71	7.02	6.79	7.10
Fe3+	0.04	0.02	0.03	0.02	0.02	0.00	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01
Ca	3.28	3.20	3.31	3.33	3.57	3.29	3.39	3.26	3.41	3.35	3.43	2.91	2.54	2.90	2.68	2.96
Na	0.65	0.71	0.52	0.57	0.44	0.58	0.46	0.69	0.49	0.56	0.46	0.98	1.31	1.01	1.22	0.96
K	0.00	0.01	0.00	0.04	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01
total	**19.99**	**19.97**	**19.94**	**19.99**	**20.01**	**19.94**	**19.95**	**20.02**	**19.99**	**19.99**	**19.96**	**19.96**	**19.94**	**19.97**	**19.96**	**19.98**
Or(%)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Ab (%)	16	18	14	14	11	15	12	17	13	14	12	25	34	26	31	24
An (%)	**83**	**82**	**86**	**84**	**89**	**85**	**88**	**82**	**87**	**86**	**88**	**75**	**66**	**74**	**69**	**75**

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl ©	Pl ©	Pl (B)
SAMPLE	**S-4-2**	**S-4-2**	**S-4-2**	**S-4-2**	**S-4-2**	**S-4-2**	**S-4-2**	**S-4-2**	**ODV-G-34**	**ODV-G-34**	**ODV-G-34**	**ODV-G-34**	**ODV-G-26**	**ODV-G-26**	**ODV-G-25**	**ODV-G-25**
Label	M 374 (4_2)	M 373 (4_1)	M 376 (6_2)	M 375 (6_1)	M 378 (8_2)	M 377 (8_1)	M 380 (10_2)	M 379 (10_1)	612 (1_5)	613 (1_6)	614 (2_5)	615 (2_6)	M 565 (2_3)	M 571(4_1)	M 433 (4_5)	M 432 (4_4)
SiO2	55.54	56.01	56.18	55.78	55.75	55.65	55.97	55.90	56.70	56.32	56.37	55.87	53.66	53.76	53.38	52.55
Al2O3	26.74	26.92	26.50	26.54	26.20	26.34	26.49	26.99	27.89	27.64	27.52	27.94	29.20	29.25	29.36	30.19
FeO(t)	0.19	0.21	0.21	0.19	0.20	0.20	0.27	0.16	0.17	0.14	0.08	0.36	0.26	0.25	0.23	0.42
CaO	9.54	9.66	9.52	9.62	9.53	9.59	9.53	9.73	9.39	9.61	9.30	9.52	11.79	11.63	11.91	12.61
Na2O	5.72	5.94	5.69	5.83	5.82	5.65	5.76	5.69	6.00	5.69	5.79	5.77	4.79	5.01	4.49	4.22
K2O	0.13	0.13	0.19	0.11	0.17	0.15	0.19	0.14	0.11	0.22	0.25	0.25	0.23	0.26	0.23	0.23
total	**97.86**	**98.87**	**98.29**	**98.08**	**97.69**	**97.58**	**98.21**	**98.62**	**100.25**	**99.62**	**99.31**	**99.71**	**99.92**	**100.15**	**99.58**	**100.21**
Atoms per formula unit																
Si	10.19	10.18	10.26	10.21	10.25	10.24	10.23	10.18	10.14	10.15	10.18	10.07	9.72	9.72	9.69	9.51
Al	5.78	5.77	5.70	5.73	5.68	5.71	5.71	5.79	5.88	5.87	5.86	5.94	6.23	6.23	6.28	6.44
Fe3+	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.02	0.02	0.02	0.01	0.05	0.04	0.04	0.03	0.06
Ca	1.88	1.88	1.86	1.89	1.88	1.89	1.87	1.90	1.80	1.85	1.80	1.84	2.29	2.25	2.32	2.45
Na	2.03	2.09	2.01	2.07	2.08	2.02	2.04	2.01	2.08	1.99	2.03	2.01	1.68	1.76	1.58	1.48
K	0.03	0.03	0.04	0.02	0.04	0.03	0.04	0.03	0.02	0.05	0.06	0.06	0.05	0.06	0.05	0.05
total	**19.94**	**19.98**	**19.91**	**19.95**	**19.95**	**19.92**	**19.93**	**19.93**	**19.96**	**19.93**	**19.93**	**19.97**	**20.01**	**20.06**	**19.96**	**20.00**
Or(%)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ab (%)	52	52	51	52	52	51	52	51	53	51	52	52	42	43	40	37
An (%)	**48**	**47**	**47**	**47**	**47**	**48**	**47**	**48**	**46**	**48**	**46**	**47**	**57**	**55**	**59**	**61**

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Ol Gb	Ol Gb	Ol Gb	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb
DESCRIP	Pl def C (B)	Pl def C (C)	Pl def C (B)	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl lath (C)	Pl (C)
SAMPLE	RS-9	RS-9	RS-9	RS-10	RS-10	RS-10	RS-15	RS-15	RS-15	RS-15	RS-16	RS-16	RS-16	RS-16	RS-17	RS-17
Label	639 (7_6)	640 (8_1)	641(8_2)	651(5_5)	652 (5_6)	653 (6_5)	1095 [5-4]	1096 [5-5]	1102 [6-2]	1103 [6-3]	1080 [6-1]	1081[6-2]	1089 [7-4]	1090 [7-5]	1110 [4-6]	1111[4-7]
SiO2	49.82	49.46	48.98	47.70	48.64	48.11	47.23	46.92	47.53	47.21	50.55	49.88	52.23	51.90	49.28	47.15
Al2O3	32.92	32.42	33.01	33.75	33.62	33.32	33.81	34.33	33.83	34.42	31.53	32.51	30.80	31.26	32.74	33.90
FeO(t)	0.00	0.10	0.07	0.20	0.18	0.17	0.23	1.89	0.17	0.20	0.22	0.20	0.15	0.13	0.09	0.18
CaO	14.93	14.41	14.97	15.84	15.62	15.56	15.93	16.04	15.97	16.44	13.53	14.12	12.64	12.93	14.55	15.80
Na2O	2.83	3.00	2.75	2.24	2.27	2.34	2.19	1.99	2.24	2.12	3.83	3.27	4.14	4.25	3.13	2.46
K2O	0.00	0.34	0.00	0.00	0.00	0.08	0.04	0.03	0.04	0.03	0.06	0.06	0.06	0.07	0.00	0.01
total	100.51	99.74	99.78	99.74	100.33	99.57	99.42	101.20	99.77	100.41	99.72	100.04	100.01	100.53	99.80	99.51
Atoms per formula unit																
Si	9.03	9.05	8.95	8.75	8.85	8.83	8.70	8.53	8.72	8.62	9.22	9.08	9.46	9.37	9.00	8.68
Al	7.03	6.99	7.11	7.30	7.21	7.21	7.34	7.35	7.32	7.41	6.78	6.97	6.57	6.65	7.05	7.36
Fe3+	0.00	0.02	0.01	0.03	0.03	0.03	0.04	0.29	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.03
Ca	2.90	2.83	2.93	3.11	3.05	3.06	3.14	3.12	3.14	3.22	2.65	2.75	2.45	2.50	2.85	3.12
Na	1.00	1.06	0.97	0.80	0.80	0.83	0.78	0.70	0.80	0.75	1.36	1.15	1.46	1.49	1.11	0.88
K	0.00	0.08	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.00	0.00
total	19.95	20.02	19.98	19.99	19.93	19.98	20.01	20.00	20.01	20.04	20.05	20.00	19.98	20.05	20.02	20.07
Or(%)	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ab (%)	26	27	25	20	21	21	20	18	20	19	34	29	37	37	28	22
An (%)	74	71	75	80	79	78	80	82	80	81	66	70	63	62	72	78

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Pl ©	Pl (B)	Pl ©	Pl ©	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl ©	Pl (B)	Pl ©	Pl ©	Pl (B)	Pl (C)	Pl (B)	Pl (B)
SAMPLE	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-23	ODV-G-23	ODV-G-23	ODV-G-23	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-22	ODV-G-22	ODV-G-22
Label	M436 (1_2)	M435 (1_1)	M442 (2_8)	M447 (5_3)	1216 [1-3]	1217 [1-4]	1220 [3-1]	1221[3-2]	M452 (1_4)	M451(1_3)	M457 (2_3)	M468 (6_1)	M469 (6_2)	M578 (1_5)	M577 (1_4)	M581(2_3)
SiO2	53.46	53.21	52.75	53.60	56.25	56.15	56.01	55.84	55.92	55.52	55.49	56.05	55.52	55.60	55.87	56.19
Al2O3	29.59	29.75	29.36	29.57	27.70	28.01	27.66	28.07	27.68	28.30	27.79	27.89	28.10	27.63	27.97	27.72
FeO(t)	0.28	0.30	0.31	0.25	0.19	0.12	0.19	0.24	0.20	0.16	0.22	0.19	0.19	0.38	0.19	0.27
CaO	12.05	12.36	12.00	11.95	9.59	9.63	9.38	9.86	9.94	10.07	10.21	10.14	9.97	9.93	10.09	9.85
Na2O	4.73	4.64	4.71	4.57	6.05	6.04	5.91	5.76	5.67	5.75	5.62	5.62	5.86	5.70	5.68	5.79
K2O	0.21	0.20	0.22	0.23	0.28	0.26	0.22	0.24	0.24	0.23	0.24	0.22	0.27	0.07	0.14	0.16
total	100.32	100.46	99.36	100.17	100.06	100.21	99.38	100.01	99.64	100.05	99.56	100.11	99.91	99.30	99.94	99.99
Atoms per formula unit																
Si	9.65	9.61	9.63	9.68	10.11	10.08	10.12	10.04	10.09	9.99	10.04	10.07	10.01	10.07	10.05	10.10
Al	6.30	6.33	6.31	6.29	5.87	5.92	5.89	5.95	5.89	6.00	5.93	5.91	5.97	5.90	5.93	5.87
Fe3+	0.04	0.05	0.05	0.04	0.03	0.02	0.03	0.04	0.03	0.02	0.03	0.03	0.03	0.06	0.03	0.04
Ca	2.33	2.39	2.35	2.31	1.85	1.85	1.82	1.90	1.92	1.94	1.98	1.95	1.93	1.93	1.95	1.90
Na	1.66	1.62	1.67	1.60	2.11	2.10	2.07	2.01	1.98	2.01	1.97	1.96	2.05	2.00	1.98	2.02
K	0.05	0.05	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.02	0.03	0.04
total	20.03	20.04	20.05	19.98	20.03	20.03	19.98	19.99	19.97	20.02	20.00	19.96	20.05	19.96	19.97	19.97
Or(%)	1	1	1	1	2	1	1	1	1	1	1	1	2	0	1	1
Ab (%)	41	40	41	40	52	52	53	51	50	50	49	49	51	51	50	51
An (%)	58	59	58	58	46	46	46	48	49	49	49	49	48	49	49	48

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl ©	
SAMPLE	**RS-17**	**RS-17**	**RS-17**	**RS-17**	**RS-17**	**RS-18**	**RS-18**	**RS-18**	**RS-18**	**RS-21**	**RS-21**	**RS-21**	**RS-21**	**RS-2**	**RS-2**	**RS-1A**	
Label	1112 [4-8]	1120 [5-7]	1121[5-8]	1126 [6-5]	1127 [6-6]	1151A [3-7]	1152A [3-8]	1158A [4-7]	1159A [4-8]	1135 [3-8]	1136 [3-9]	1143 [4-7]	1144 [4-8]	610 (4_3)	611(4_4)	593 (1_6)	
SiO2	48.16	48.03	49.78	48.84	48.85	49.49	49.29	51.79	49.21	48.41	48.60	47.94	46.56	48.12	46.99	48.96	
Al2O3	34.12	32.96	33.28	32.88	32.58	32.42	31.81	31.27	33.12	33.83	33.43	33.44	34.29	32.81	33.87	33.06	
FeO(t)	0.23	0.19	0.25	0.26	1.39	0.14	0.71	0.14	0.18	0.20	0.20	0.17	0.16	0.14	0.19	0.15	
CaO	15.81	15.47	15.10	14.96	14.29	14.58	14.07	13.17	14.99	15.80	15.15	15.67	16.72	14.59	15.86	15.01	
Na2O	2.56	2.55	2.77	2.71	2.82	3.27	2.99	4.11	2.94	2.51	3.08	2.45	1.86	2.98	2.39	2.77	
K2O	0.01	0.03	0.04	0.02	0.03	0.02	0.02	0.04	0.02	0.01	0.06	0.03	0.02	0.00	0.12	0.12	
total	**100.89**	**99.23**	**101.21**	**99.67**	**99.96**	**99.93**	**98.89**	**100.50**	**100.46**	**100.75**	**100.51**	**99.69**	**99.61**	**98.64**	**99.43**	**100.07**	
Atoms per formula unit																	
Si	8.74	8.85	8.97	8.94	8.93	9.04	9.08	9.36	8.94	8.79	8.85	8.80	8.58	8.90	8.67	8.93	
Al	7.30	7.16	7.07	7.09	7.02	6.98	6.91	6.66	7.09	7.24	7.17	7.23	7.45	7.15	7.36	7.11	
Fe3+	0.03	0.03	0.04	0.04	0.21	0.02	0.11	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.02	
Ca	3.07	3.06	2.91	2.93	2.80	2.85	2.78	2.55	2.92	3.07	2.95	3.08	3.30	2.89	3.13	2.93	
Na	0.90	0.91	0.97	0.96	1.00	1.16	1.07	1.44	1.04	0.88	1.09	0.87	0.66	1.07	0.86	0.98	
K	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.03	0.03	
total	**20.05**	**20.01**	**19.97**	**19.98**	**19.96**	**20.05**	**19.95**	**20.03**	**20.02**	**20.02**	**20.10**	**20.01**	**20.02**	**20.04**	**20.08**	**20.01**	
Or(%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
Ab (%)	23	23	25	25	26	29	28	36	26	22	27	22	17	27	21	25	
An (%)	**77**	**77**	**75**	**75**	**74**	**71**	**72**	**64**	**74**	**78**	**73**	**78**	**83**	**73**	**78**	**74**	

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Leucog ss
DESCRIP	Pl (B)	Pl (B)	Pl (B)	Pl (C)	Pl (C)	buble	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl ©	Pl def (B)	Pl (B)	Pl ©	
SAMPLE	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-22**	**ODV-G-24**	**ODV-G-24**	**ODV-G-24**	**ODV-G-38**	**ODV-G-38**	**ODV-G-38**	**ODV-G-38**	
Label	M 582 (2_4)	M 584 (3_1)	M 585 (3_2)	M 586 (3_3)	M 592 (4_5)	M 591(4_4)	1226 [1-3]	1227 [1-4]	1228 [2-1]	M 510 (4_2)	M 511(5_1)	M 512 (5_2)	646 (1_3)	647 (1_4)	648 (1_5)	649 (2_5)	
SiO2	56.00	56.27	55.45	55.29	56.17	55.50	56.57	55.66	56.39	55.93	55.50	56.30	53.56	53.58	53.64	54.04	
Al2O3	27.64	27.86	28.29	28.12	28.19	28.40	27.76	28.18	27.57	28.71	28.65	27.98	29.33	29.75	29.69	29.59	
FeO(t)	0.27	0.26	0.53	0.35	0.20	0.42	0.32	0.28	0.31	0.12	0.18	0.20	0.23	0.22	0.28	0.23	
CaO	9.71	9.51	9.99	9.94	10.11	10.03	9.28	9.76	9.48	10.40	10.55	9.98	11.43	11.57	11.76	11.69	
Na2O	5.80	5.95	5.46	5.58	5.62	5.77	6.18	6.04	6.03	5.64	5.55	5.92	4.67	4.64	4.50	4.61	
K2O	0.18	0.18	0.10	0.16	0.20	0.20	0.27	0.21	0.27	0.22	0.19	0.26	0.23	0.22	0.30	0.23	
total	**99.61**	**100.03**	**99.82**	**99.44**	**100.49**	**100.33**	**100.38**	**100.13**	**100.05**	**101.02**	**100.62**	**100.66**	**99.45**	**99.96**	**100.17**	**100.39**	
Atoms per formula unit																	
Si	10.10	10.10	9.99	10.00	10.05	9.97	10.13	10.01	10.13	9.97	9.94	10.07	9.73	9.68	9.68	9.73	
Al	5.88	5.90	6.01	6.00	5.94	6.01	5.86	5.97	5.84	6.03	6.05	5.90	6.28	6.34	6.32	6.28	
Fe3+	0.04	0.04	0.08	0.05	0.03	0.06	0.05	0.04	0.05	0.02	0.03	0.03	0.04	0.03	0.04	0.03	
Ca	1.88	1.83	1.93	1.93	1.94	1.93	1.78	1.88	1.82	1.99	2.02	1.91	2.22	2.24	2.27	2.25	
Na	2.03	2.07	1.91	1.96	1.95	2.01	2.15	2.11	2.10	1.95	1.93	2.05	1.64	1.62	1.58	1.61	
K	0.04	0.04	0.02	0.04	0.05	0.05	0.06	0.05	0.06	0.05	0.04	0.06	0.05	0.05	0.07	0.05	
total	**19.97**	**19.98**	**19.93**	**19.97**	**19.96**	**20.02**	**20.02**	**20.06**	**20.01**	**20.01**	**20.01**	**20.02**	**19.96**	**19.97**	**19.96**	**19.95**	
Or(%)	1	1	1	1	1	1	2	1	2	1	1	1	1	1	2	1	
Ab (%)	51	53	49	50	50	50	54	52	53	49	48	51	42	41	40	41	
An (%)	**48**	**46**	**50**	**49**	**49**	**48**	**45**	**47**	**46**	**50**	**51**	**48**	**57**	**57**	**58**	**58**	

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB II
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Gbnor
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Gbnor
DESCRIP	Pl(B)	Pl©	Pl(B)	Pl meg rim (C)	Pl©	Pl©	Pl(B)	Pl©	Pl(B)	Pl©	Pl(B)	Pl©	Pl(B)	Pl(B)	Pl©	Pl(B)	Pl(C)
SAMPLE	RS-1A	RS-1A	RS-1A	RS-1A	RS-1B	RS-1B	RS-1B	RS-3	RS-3	RS-3	RS-3	RS-3	RS-3	RS-3	RS-3	RS-3	RS-11
Label	594 (1_7)	595 (3_3)	596 (3_4)	599 (2_3)	600 (1_7)	602 (2_9)	603 (2_10)	624 (1_7)	625 (1_8)	626 (3_3)	627 (3_4)	628 (4_5)	629 (4_6)	630 (4_7)	631(4_8)	657 (2_3)	
SiO2	49.95	50.36	50.30	50.25	47.77	48.52	47.08	49.89	47.69	48.50	50.69	52.01	49.92	51.51	49.55	55.51	
Al2O3	32.91	32.17	32.60	32.51	32.83	32.82	33.29	31.95	34.21	33.06	31.92	30.68	31.72	30.52	32.11	28.09	
FeO(t)	0.24	0.24	0.17	0.14	0.17	0.21	0.27	0.20	0.24	0.20	0.26	0.23	0.33	0.24	0.29	0.17	
CaO	14.49	14.27	14.66	14.51	14.91	14.54	15.31	14.17	16.02	15.63	13.88	12.68	14.01	12.73	14.44	10.21	
Na2O	3.07	3.21	3.13	3.13	2.99	2.99	2.54	3.11	1.96	2.48	3.34	3.92	3.28	3.88	3.00	5.38	
K2O	0.00	0.09	0.05	0.10	0.00	0.00	0.00	0.06	0.09	0.09	0.18	0.25	0.11	0.11	0.09	0.25	
total	100.66	100.35	100.91	100.64	98.67	99.08	98.50	99.38	100.19	99.96	100.27	99.77	99.37	98.98	99.48	99.61	
Atoms per formula unit																	
Si	9.04	9.14	9.08	9.10	8.85	8.93	8.75	9.14	8.71	8.87	9.20	9.45	9.15	9.43	9.08	10.02	
Al	7.02	6.88	6.94	6.93	7.17	7.12	7.29	6.89	7.36	7.13	6.83	6.57	6.85	6.59	6.93	5.98	
Fe3+	0.04	0.04	0.03	0.02	0.03	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.05	0.04	0.04	0.03	
Ca	2.81	2.77	2.84	2.81	2.96	2.87	3.05	2.78	3.13	3.06	2.70	2.47	2.75	2.50	2.83	1.98	
Na	1.08	1.13	1.10	1.10	1.07	1.07	0.92	1.10	0.69	0.88	1.17	1.38	1.17	1.38	1.07	1.88	
K	0.00	0.02	0.01	0.02	0.00	0.00	0.00	0.01	0.02	0.02	0.04	0.06	0.03	0.03	0.02	0.06	
total	19.98	19.98	19.99	19.99	20.08	20.02	20.04	19.96	19.95	20.00	19.98	19.96	19.99	19.96	19.98	19.94	
Or(%)	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1.50	
Ab (%)	28	29	28	28	27	27	23	28	18	22	30	35	30	35	27	48	
An (%)	72	71	72	72	73	73	77	71	81	77	69	63	70	64	72	50	

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Leucogss	Leucogss	Leucogss	Leucogss	Leucogss	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort
CLASIF	Leucogss	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort	Anort
DESCRIP	Pl(B)	Pl©	Pl(B)	Pl©	Pl(B)	Pl meg ax (C)	Pl meg ax (B)	Pl bubble (C)	Pl bubble (C)	Pl(C)	Pl bubble (C)	Pl bubble (C)	Pl(C)	Pl intc (C)	Pl Mmeg ax (C)	Pl(C)	
SAMPLE	ODV-G-38	ODV-G-37	ODV-G-37	ODV-G-37	ODV-G-37	ODV-A-20	ODV-A-20	ODV-A-20	ODV-A-20	ODV-A-20	ODV-A-20	ODV-A-20	ODV-A-27	ODV-A-27	ODV-A-27	ODV-A-27	
Label	650 (2_6)	642 (1_5)	643 (1_6)	644 (2_5)	645 (2_6)	M422 (1_2)	M421(1_1)	M423 (2_1)	M424 (2_2)	M425 (3_1)	M427 (3_3)	M428 (3_4)	M470 (3_1)	M474 (3_5)	M476 (1_2)	M478 (2_2)	
SiO2	53.64	53.47	52.81	54.95	53.51	55.03	55.51	55.55	55.94	55.33	55.84	54.78	54.08	54.81	54.33	54.68	
Al2O3	29.65	29.26	30.06	29.10	29.54	27.11	27.99	27.75	28.04	28.01	28.00	27.62	29.24	29.00	28.68	28.79	
FeO(t)	0.30	0.26	0.23	0.28	0.27	0.21	0.33	0.27	0.28	0.26	0.32	0.28	0.23	0.25	0.48	0.23	
CaO	11.57	11.80	12.39	11.09	11.84	10.35	10.55	10.12	10.21	10.65	10.31	10.22	11.68	11.26	11.18	11.25	
Na2O	4.61	4.59	4.32	5.08	4.47	5.52	5.08	5.49	5.68	5.42	5.37	5.13	4.95	5.14	5.14	5.08	
K2O	0.05	0.31	0.20	0.27	0.19	0.25	0.24	0.11	0.25	0.25	0.24	0.22	0.24	0.22	0.21	0.26	
total	99.82	99.70	100.02	100.77	99.82	98.46	99.70	99.30	100.40	99.91	100.08	98.25	100.41	100.67	100.03	100.28	
Atoms per formula unit																	
Si	9.70	9.71	9.57	9.84	9.69	10.07	10.02	10.06	10.03	9.99	10.04	10.03	9.74	9.83	9.82	9.85	
Al	6.32	6.26	6.42	6.14	6.30	5.85	5.95	5.92	5.93	5.96	5.93	5.96	6.21	6.13	6.11	6.11	
Fe3+	0.04	0.04	0.04	0.04	0.04	0.03	0.05	0.04	0.04	0.04	0.05	0.04	0.03	0.04	0.07	0.03	
Ca	2.24	2.30	2.41	2.13	2.30	2.03	2.04	1.96	1.96	2.06	1.99	2.00	2.25	2.16	2.17	2.17	
Na	1.62	1.62	1.52	1.76	1.57	1.96	1.78	1.93	1.97	1.89	1.87	1.82	1.73	1.79	1.80	1.78	
K	0.01	0.07	0.05	0.06	0.04	0.06	0.06	0.03	0.06	0.06	0.06	0.05	0.06	0.05	0.05	0.06	
total	19.93	19.99	19.99	19.98	19.95	20.00	19.89	19.94	20.00	19.99	19.93	19.91	20.03	20.00	20.02	20.00	
Or(%)	0	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	
Ab (%)	42	41	38	45	40	48	46	49	49	47	48	47	43	45	45	44	
An (%)	58	58	61	54	59	50	53	50	49	51	51	52	56	54	54	54	

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor
CLASIF	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor
DESCRIP	Pl (B)	Pl matrix (C)	Pl matrix (B)	Pl megacr (C)	Pl megacr (B)	Pl Mregacr (C_R1)	Pl Mregacr (R2)	Pl Mregacr (R3)	Pl Mregacr (C_R1)	Pl Mregacr (R2)	Pl Mregacr (R3)	Pl Mregacr def (C)	Pl Mregacr def (B)	Pl megacr (R2)	Pl megacr (R3)	Pl megacr (R4)	
SAMPLE	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	
Label	658 (2_4)	1148 [4-4]	1149 [4-5]	655 (1_1)	656 (1_2)	1145 [4-1]	1146 [4-2]	1147 [4-3]	1151 [5-1]	1152 [5-2]	1153 [5A-3]	1154 [5A-4]	1155 [5A-5]	1161 [5A-11]	1159 [5A-9]	1160 [5A-10]	
SiO2	54.90	55.03	55.11	48.01	48.33	47.31	47.93	54.66	48.12	48.01	53.07	49.66	54.25	50.49	50.04	54.18	
Al2O3	28.35	28.68	28.46	33.60	33.28	33.79	33.15	28.17	33.16	33.35	29.31	31.45	29.17	32.48	32.28	29.61	
FeO(t)	0.19	0.19	0.20	0.23	0.23	0.00	1.18	0.27	0.25	0.28	0.28	0.19	0.29	0.39	0.41	0.23	
CaO	9.86	11.32	10.17	16.20	15.89	15.97	15.24	10.36	15.12	15.34	11.45	13.53	10.89	14.24	14.37	11.43	
Na2O	5.30	5.33	5.42	2.12	2.31	1.96	2.48	5.49	2.35	2.24	4.55	3.45	5.21	3.44	3.09	4.92	
K2O	0.30	0.74	0.67	0.26	0.00	0.04	0.06	0.00	0.07	0.06	0.00	0.10	0.23	0.10	0.08	0.20	
total	98.89	101.29	100.03	100.42	100.03	99.06	100.04	98.94	99.06	99.28	98.65	98.39	100.03	101.13	100.28	100.58	
Atoms per formula unit																	
Si	9.98	9.85	9.94	8.76	8.84	8.73	8.78	9.95	8.87	8.83	9.70	9.18	9.79	9.10	9.09	9.73	
Al	6.07	6.05	6.05	7.23	7.17	7.35	7.16	6.04	7.20	7.23	6.32	6.85	6.20	6.90	6.91	6.27	
Fe3+	0.03	0.03	0.03	0.04	0.04	0.00	0.18	0.04	0.04	0.04	0.04	0.03	0.04	0.06	0.06	0.03	
Ca	1.92	2.17	1.97	3.17	3.11	3.16	2.99	2.02	2.98	3.02	2.24	2.68	2.11	2.75	2.80	2.20	
Na	1.87	1.85	1.90	0.75	0.82	0.70	0.88	1.94	0.84	0.80	1.61	1.24	1.82	1.20	1.09	1.71	
K	0.07	0.17	0.15	0.06	0.00	0.01	0.01	0.00	0.02	0.01	0.00	0.02	0.05	0.02	0.02	0.05	
total	19.94	20.12	20.04	20.01	19.97	19.95	20.00	19.98	19.94	19.94	19.92	20.01	20.02	20.03	19.97	20.00	
Or(%)	1.78	4.06	3.86	2	0	0	0	0	0	0	0	1	1	1	0	1	
Ab (%)	48	44	47	19	21	18	23	49	22	21	42	31	46	30	28	43	
An (%)	50	52	49	80	79	82	77	51	78	79	58	68	53	69	72	56	

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	
GROUP	Int	Upp	Upp	Upp	Upp												
UNIT	Anort	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	
CLASIF	Anort	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Opx Leucog	Opx Leucog	Opx Leucog	
DESCRIP	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl reaction rim (B)	Pl (C)	Pl (B)	Pl reaction rim (C)	Pl reaction rim (B)	Pl reaction rim (B)	Pl (B_sulf)	Pl (B_Ol)	Pl ©	Pl (B)	Pl ©	
SAMPLE	ODV-A-27	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-PO	ODV-G-41	ODV-G-41	ODV-G-41	
Label	M477 (2_1)	616 (2_7)	617 (2_8)	618 (4_3)	619 (4_4)	M416 (2_4)	M327 (3_5)	M326 (3_4)	M330 (5_3)	M328 (5_1)	M329 (5_2)	M332 (6_4)	M331 (6_3)	404 (2_3)	405 (2_4)	413 (1_8)	
SiO2	54.82	55.63	55.19	55.79	56.13	52.36	52.55	52.65	52.67	50.57	52.44	48.11	51.82	52.45	51.81	52.72	
Al2O3	28.76	27.81	27.83	27.90	28.05	29.98	29.59	29.13	28.57	30.86	29.05	31.76	29.77	29.60	30.08	29.44	
FeO(t)	0.26	0.21	0.21	0.24	0.29	0.33	0.28	0.35	0.34	0.32	0.35	0.21	0.38	0.27	0.25	0.22	
CaO	10.84	9.63	9.68	9.93	9.66	12.62	12.65	12.41	12.73	14.12	12.61	15.87	12.82	12.09	12.23	11.79	
Na2O	5.29	5.57	5.61	5.68	5.56	4.18	4.46	4.53	4.49	3.70	4.49	2.54	4.06	4.38	4.27	4.55	
K2O	0.25	0.22	0.26	0.23	0.30	0.02	0.07	0.06	0.06	0.04	0.03	0.00	0.02	0.15	0.15	0.17	
total	100.23	99.07	98.77	99.77	100.00	99.49	99.59	99.13	98.86	99.60	98.99	98.49	98.89	98.94	98.80	98.89	
Atoms per formula unit																	
Si	9.87	10.08	10.04	10.06	10.08	9.53	9.57	9.63	9.67	9.26	9.61	8.95	9.51	9.60	9.50	9.64	
Al	6.10	5.94	5.97	5.93	5.94	6.43	6.35	6.28	6.18	6.66	6.28	6.96	6.44	6.38	6.50	6.35	
Fe3+	0.04	0.03	0.03	0.04	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.03	0.06	0.04	0.04	0.03	
Ca	2.09	1.87	1.89	1.92	1.86	2.46	2.47	2.43	2.50	2.77	2.48	3.16	2.52	2.37	2.40	2.31	
Na	1.85	1.96	1.98	1.99	1.94	1.48	1.57	1.61	1.60	1.31	1.60	0.91	1.45	1.56	1.52	1.61	
K	0.06	0.05	0.06	0.05	0.07	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.03	0.04	0.04	
total	20.01	19.93	19.97	19.98	19.93	19.96	20.03	20.01	20.02	20.05	20.02	20.02	19.97	19.98	20.00	19.99	
Or(%)	1	1	2	1	2	0	0	0	0	0	0	0	0	1	1	1	
Ab (%)	46	50	50	50	50	37	39	40	39	32	39	22	36	39	38	41	
An (%)	52	48	48	48	48	62	61	60	61	68	61	78	63	60	61	58	

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB II	SB II	SB II	SB II	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	-	-	-	-	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Gbnor	Gbnor	Gbnor	Gbnor	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Gbnor	Gbnor	Gbnor	Gbnor	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog
DESCRIP	PI Megacr (C_R1)	PI Megacr (R2)	PI Megacr (R3)	PI Megacr (R4)	PI©	PI(B)	PI©	PI(B)	PI©	PI(B)	PI©	PI(B)	PI©	PI(B)	PI©	PI(B)
SAMPLE	RS-11	RS-11	RS-11	RS-11	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2
Label	1162 [5A-12]	1163 [5A-13]	1164 [5A-14]	1165 [5A-15]	M334 (1_4)	M333 (1_3)	M336 (3_4)	M335 (3_3)	M338 (4_5)	M337 (4_4)	M340 (4_7)	M339 (4_6)	M341(5_5)	M342 (5_6)	M344 (8_2)	M343 (8_1)
SiO2	49.28	51.57	53.31	50.52	56.29	56.28	56.08	56.56	56.28	56.09	56.57	55.92	57.52	56.69	56.17	56.55
Al2O3	32.72	30.62	29.44	31.70	27.67	27.00	27.50	27.88	27.50	27.90	27.42	27.49	26.92	27.71	27.36	27.90
FeO(t)	0.19	0.22	0.21	0.27	0.22	0.22	0.19	0.25	0.18	0.22	0.22	0.29	0.25	0.31	0.14	0.34
CaO	14.85	12.55	11.57	13.71	10.24	10.05	10.10	10.33	9.99	10.52	9.49	10.12	9.47	10.17	10.07	10.04
Na2O	2.84	4.30	4.91	3.52	5.95	5.96	5.90	5.86	5.92	5.56	6.01	5.75	6.32	5.94	5.74	5.98
K2O	0.07	0.14	0.18	0.08	0.26	0.24	0.29	0.31	0.25	0.23	0.24	0.24	0.28	0.24	0.23	0.24
total	**99.95**	**99.40**	**99.63**	**99.79**	**100.63**	**99.75**	**100.05**	**101.19**	**100.12**	**100.52**	**99.95**	**99.81**	**100.76**	**101.04**	**99.71**	**101.05**
Atoms per formula unit																
Si	8.99	9.42	9.68	9.21	10.08	10.16	10.10	10.07	10.12	10.05	10.17	10.09	10.26	10.10	10.13	10.08
Al	7.04	6.59	6.30	6.81	5.84	5.74	5.83	5.85	5.83	5.89	5.81	5.85	5.66	5.82	5.82	5.86
Fe3+	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.04	0.05	0.02	0.05
Ca	2.90	2.45	2.25	2.68	1.97	1.94	1.95	1.97	1.92	2.02	1.83	1.96	1.81	1.94	1.95	1.92
Na	1.00	1.52	1.73	1.25	2.06	2.09	2.06	2.02	2.06	1.93	2.09	2.01	2.19	2.05	2.01	2.07
K	0.02	0.03	0.04	0.02	0.06	0.06	0.07	0.07	0.06	0.05	0.05	0.06	0.06	0.05	0.05	0.05
total	**19.98**	**20.05**	**20.04**	**20.00**	**20.04**	**20.02**	**20.03**	**20.03**	**20.02**	**19.98**	**19.99**	**20.00**	**20.02**	**20.02**	**19.98**	**20.03**
Or(%)	0	1	1	0	1	1	2	2	1	1	1	1	2	1	1	1
Ab (%)	26	38	43	32	50	51	51	50	51	48	53	50	54	51	50	51
An (%)	**74**	**61**	**56**	**68**	**48**	**48**	**48**	**48**	**48**	**50**	**46**	**49**	**45**	**48**	**49**	**47**

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP																
UNIT	Ol Leucog I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Ol Gb I	Anort	Anort	Anort	Anort	Anort	Anort
CLASIF	Opx Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Ol Leucog	Ol Leucog	Ol Leucog	Anort	Anort	Anort	Anort	Anort	Anort
DESCRIP	PI(B)	PI(B)	PI(C)	PI(B)	PI(C)	PI(C)	PI(B)	PI(C)	PI Megacr (C)	PI Megacr (R)	PI(C)	PI(B)	PI bubble (C)	PI(C)	PI(B)	PI(C)
SAMPLE	ODV-G-41	ODV-G-28	ODV-G-28	ODV-G-28	ODV-G-32	ODV-G-32	ODV-G-32	ODV-G-33	ODV-G-33	ODV-G-33	ODV-G-31	ODV-G-31	ODV-G-31	ODV-G-31	ODV-G-31	ODV-G-31
Label	414 (1_9)	M489 (2_4)	M493 (3_4)	M492 (3_3)	M653 (3_2)	M650 (2_5)	M649 (2_4)	M635 (1_5)	M641(4_1)	M642 (4_2)	M594 (1_2)	M595 (1_3)	M600 (3_1)	M602 (3_3)	M601(3_2)	M604 (3_5)
SiO2	51.20	52.95	51.90	52.32	51.83	52.06	52.04	52.51	52.56	53.13	52.99	53.38	52.45	52.93	53.49	52.13
Al2O3	31.10	29.42	29.42	30.25	30.41	30.32	30.40	30.22	30.10	29.82	30.14	30.07	30.28	30.14	29.25	30.60
FeO(t)	0.31	0.24	0.23	0.25	0.27	0.29	0.31	0.24	0.31	0.23	0.27	0.31	0.39	0.42	0.43	0.36
CaO	12.95	12.22	12.71	12.58	13.15	12.80	12.76	12.58	12.69	12.24	12.52	12.43	12.97	12.66	11.98	13.15
Na2O	3.75	4.60	4.34	4.50	4.09	4.30	3.89	4.23	3.98	4.48	4.41	4.58	4.12	4.31	4.70	3.99
K2O	0.14	0.13	0.13	0.11	0.15	0.14	0.12	0.14	0.16	0.15	0.10	0.02	0.07	0.17	0.18	0.13
total	**99.45**	**99.57**	**98.73**	**100.02**	**99.90**	**99.91**	**99.53**	**99.92**	**99.80**	**100.06**	**100.42**	**100.79**	**100.29**	**100.63**	**100.03**	**100.36**
Atoms per formula unit																
Si	9.34	9.64	9.54	9.49	9.43	9.46	9.48	9.52	9.54	9.62	9.56	9.59	9.49	9.54	9.69	9.43
Al	6.69	6.31	6.38	6.47	6.52	6.49	6.52	6.46	6.44	6.36	6.41	6.37	6.46	6.40	6.24	6.53
Fe3+	0.05	0.04	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.03	0.04	0.05	0.06	0.06	0.06	0.06
Ca	2.53	2.38	2.50	2.45	2.56	2.49	2.49	2.44	2.47	2.37	2.42	2.39	2.51	2.45	2.32	2.55
Na	1.33	1.62	1.55	1.58	1.44	1.51	1.37	1.49	1.40	1.57	1.54	1.60	1.45	1.51	1.65	1.40
K	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.01	0.02	0.04	0.04	0.03
total	**19.97**	**20.02**	**20.04**	**20.06**	**20.03**	**20.04**	**19.94**	**19.99**	**19.93**	**19.99**	**20.00**	**20.00**	**19.98**	**20.00**	**20.01**	**19.99**
Or(%)	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1
Ab (%)	34	40	38	39	36	37	35	38	36	40	39	40	36	38	41	35
An (%)	**65**	**59**	**61**	**60**	**63**	**62**	**64**	**62**	**63**	**60**	**61**	**60**	**63**	**61**	**58**	**64**

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Melanog	Ol Melanog	Ol Melanog	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Ol Gb_Opx	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Leucog ss	Leucog ss
DESCRIP	PI ©	PI (B_Ol)	PI (B_Cpx)	PI ©	PI (B)	PI ©	PI (B)	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI ©	PI ©
SAMPLE	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	S-4-2	S-4-2
Label	M347 (10_3)	M345 (10_1)	M346 (10_2)	620 (2_3)	621(2_4)	622 (1_3)	623(1_4)	M219 (7_1)	M349 (1_4)	M348 (1_3)	M351(7_6)	M350 (7_5)	M353 (8_4)	M352 (8_3)	M355 (9_5)	M354 (9_4)	M357 (10_2)	M356 (10_1)	M370 (1_5)	M372 (3_5)
SiO2	56.09	57.34	57.16	56.61	55.92	56.40	55.74	56.58	57.47	57.68	57.32	57.14	56.67	56.68	56.78	56.74	56.87	55.64	54.58	55.45
Al2O3	27.00	27.84	27.99	27.77	27.87	27.87	27.54	27.16	26.41	26.52	26.33	26.52	27.01	27.25	26.57	27.01	27.08	26.47	27.65	26.49
FeO(t)	0.21	0.20	0.17	0.22	0.78	0.17	0.19	0.18	0.15	0.20	0.18	0.20	0.21	0.22	0.15	0.25	0.28	0.19	0.20	0.18
CaO	9.85	10.21	10.14	9.48	9.38	9.56	9.62	9.36	9.56	9.64	9.78	9.59	9.49	9.73	9.63	9.51	9.53	9.29	10.55	9.48
Na2O	5.67	6.11	6.04	5.70	5.56	5.69	5.69	6.15	6.27	6.31	6.24	5.97	6.01	6.07	6.18	6.05	5.96	5.62	5.14	5.66
K2O	0.25	0.25	0.23	0.21	0.29	0.26	0.29	0.06	0.11	0.23	0.23	0.22	0.25	0.23	0.21	0.27	0.22	0.23	0.04	0.16
total	**99.07**	**101.95**	**101.73**	**100.00**	**99.79**	**99.96**	**99.08**	**99.50**	**99.97**	**100.58**	**100.07**	**99.63**	**99.63**	**100.19**	**99.52**	**99.83**	**99.92**	**97.45**	**98.16**	**97.41**
Atoms per formula unit																				
Si	10.18	10.13	10.11	10.15	10.07	10.13	10.11	10.20	10.32	10.31	10.30	10.29	10.22	10.17	10.26	10.21	10.22	10.24	10.00	10.22
Al	5.77	5.80	5.84	5.87	5.92	5.90	5.89	5.77	5.59	5.59	5.58	5.63	5.74	5.76	5.66	5.73	5.73	5.74	5.97	5.75
Fe3+	0.03	0.03	0.02	0.03	0.12	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.04	0.03	0.03	0.03
Ca	1.91	1.93	1.92	1.82	1.81	1.84	1.87	1.81	1.84	1.84	1.88	1.85	1.83	1.87	1.86	1.83	1.83	1.83	2.07	1.87
Na	2.00	2.09	2.07	1.98	1.94	1.98	2.00	2.15	2.18	2.19	2.17	2.08	2.10	2.11	2.17	2.11	2.08	2.00	1.83	2.02
K	0.06	0.06	0.05	0.05	0.07	0.06	0.07	0.01	0.02	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.01	0.04
total	**19.95**	**20.03**	**20.02**	**19.91**	**19.92**	**19.93**	**19.97**	**19.98**	**19.98**	**20.01**	**20.01**	**19.94**	**19.98**	**20.01**	**20.01**	**19.99**	**19.96**	**19.90**	**19.91**	**19.93**
Or(%)	1	1	1	1	2	2	2	0	1	1	1	1	1	1	1	2	1	1	0	1
Ab (%)	50	51	51	51	51	51	51	54	54	54	53	52	53	52	53	53	52	52	47	51
An (%)	**48**	**47**	**48**	**47**	**47**	**47**	**47**	**46**	**45**	**45**	**46**	**46**	**46**	**46**	**46**	**46**	**46**	**47**	**53**	**48**

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II
GROUP																					
UNIT	Anort	Anort	Anort	Anort	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Anort	Anort	Anort	Anort	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog								
DESCRIP	PI (B)	PI (C)	PI (B)	PI bubble (C)	PI (C)	PI (B)	PI (C)	PI (B)	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI intc (C)	PI intc (B)	PI micro (C)	PI micro (B)	PI (C)	PI (B)	PI (C)	PI (B)
SAMPLE	ODV-G-31	ODV-G-31	ODV-G-31	ODV-G-31	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-29	ODV-G-40	ODV-G-40	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D2	ODV-D2	ODV-D4	ODV-D4	ODV-D4	ODV-D4
Label	M603 (3_4)	M606 (4_2)	M605 (4_1)	M607 (4_3)	M479 (1_4)	M480 (1_5)	M483 (2_3)	M484 (2_4)	M487 (3_5)	389 (1_7)	390 (1_8)	391(2_5)	392 (2_6)	1185 [4-4]	1186 [4-5]	1189 [5-3]	1190 [5-4]	1203 [4-3]	1204 [4-4]	1212 [7-3]	1213 [7-4]
SiO2	52.92	52.78	53.95	53.12	53.32	52.42	52.63	51.85	52.09	52.77	52.52	52.97	52.54	52.86	49.99	51.16	51.28	52.98	52.99	53.67	52.19
Al2O3	29.42	30.36	29.49	29.70	30.12	30.03	30.49	30.79	29.20	29.86	30.40	29.68	29.96	30.24	31.72	30.60	30.61	29.48	29.71	29.63	30.01
FeO(t)	0.34	0.37	0.43	0.39	0.21	0.25	0.23	0.15	0.31	0.21	0.38	0.22	0.23	0.27	0.23	0.22	0.31	0.20	0.25	0.26	0.21
CaO	12.22	12.88	11.93	12.35	12.33	12.66	12.83	13.27	12.53	11.92	12.38	11.55	12.09	12.03	13.95	12.79	12.99	11.47	11.73	11.42	12.04
Na2O	4.69	4.22	4.48	4.26	4.32	4.18	4.40	4.06	4.24	4.45	4.20	4.41	4.10	4.47	3.37	4.07	3.93	4.76	4.52	4.75	4.46
K2O	0.09	0.16	0.20	0.19	0.13	0.12	0.09	0.11	0.14	0.15	0.13	0.15	0.17	0.12	0.07	0.11	0.10	0.17	0.15	0.17	0.13
total	**99.68**	**100.78**	**100.49**	**100.00**	**100.43**	**99.66**	**100.67**	**100.22**	**98.51**	**99.37**	**100.01**	**98.97**	**99.09**	**99.99**	**99.33**	**98.94**	**99.23**	**99.05**	**99.35**	**99.90**	**99.04**
Atoms per formula unit																					
Si	9.62	9.51	9.71	9.62	9.61	9.53	9.49	9.40	9.59	9.61	9.51	9.66	9.59	9.57	9.16	9.39	9.38	9.67	9.64	9.70	9.54
Al	6.30	6.44	6.25	6.34	6.39	6.44	6.48	6.58	6.34	6.41	6.49	6.38	6.44	6.45	6.85	6.62	6.60	6.34	6.37	6.31	6.47
Fe3+	0.05	0.06	0.07	0.06	0.03	0.04	0.03	0.02	0.05	0.03	0.06	0.03	0.03	0.04	0.03	0.03	0.05	0.03	0.04	0.04	0.03
Ca	2.38	2.49	2.30	2.40	2.38	2.47	2.48	2.58	2.47	2.32	2.40	2.26	2.36	2.33	2.74	2.52	2.55	2.24	2.29	2.21	2.36
Na	1.65	1.47	1.56	1.49	1.51	1.47	1.54	1.43	1.51	1.57	1.48	1.56	1.45	1.57	1.20	1.45	1.40	1.68	1.59	1.67	1.58
K	0.02	0.04	0.05	0.04	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.02	0.03	0.02	0.04	0.04	0.04	0.03
total	**20.04**	**20.00**	**19.94**	**19.95**	**19.95**	**19.98**	**20.04**	**20.03**	**19.99**	**19.98**	**19.97**	**19.93**	**19.92**	**19.99**	**20.00**	**20.02**	**20.00**	**20.01**	**19.97**	**19.97**	**20.01**
Or(%)	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	
Ab (%)	41	37	40	38	39	38	35	38	40	38	40	38	40	30	36	35	42	41	43	40	
An (%)	**59**	**62**	**59**	**61**	**61**	**61**	**64**	**61**	**59**	**61**	**59**	**61**	**59**	**69**	**63**	**64**	**57**	**58**	**56**	**59**	

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II
CLASIF DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl lath in Cpx poiq	Pl (C)	Pl (B)	Pl laths inc Ol (C)	Pl laths inc Ol (B)
SAMPLE	CVD-19A	CVD-19A	CVD-19A	CVD-19A	CVD-17	CVD-17	CVD-17	CVD-17	CVD-17D	CVD-17D	CVD-17D	CVD-17D	CVD-17D	CVD-16A	CVD-16A	CVD-16A	CVD-16A
Label	1049 [1-6]	1050 [1-7]	1055 [2-5]	1056 [2-6]	948 [1-8]	949 [1-9]	958 [2-8]	959 [2-9]	1002 [2-2]	1003 [2-3]	1010 [1-3]	1011 [1-4]	1014 [2-11]	989 [1-6]	990 [1-7]	993 [2-3]	994 [2-4]
SiO2	52.36	52.07	52.01	52.16	54.11	53.30	53.48	53.62	52.96	51.00	52.06	51.12	52.99	50.93	51.09	51.50	50.82
Al2O3	30.54	30.64	30.44	29.97	29.70	29.78	30.07	30.23	31.40	31.92	30.73	31.13	31.03	31.93	32.88	31.88	32.64
FeO(t)	0.20	0.50	0.25	0.45	0.27	0.27	0.31	0.24	0.21	0.57	0.19	0.41	0.17	0.36	0.00	0.31	0.40
CaO	12.44	12.43	12.58	12.00	11.23	11.58	11.56	11.87	12.18	12.72	12.29	12.78	12.26	13.13	13.81	13.21	13.39
Na2O	4.42	4.27	4.15	4.42	5.22	4.83	5.13	4.93	4.48	3.81	4.35	4.10	4.73	3.59	3.52	3.74	3.50
K2O	0.11	0.05	0.16	0.09	0.19	0.14	0.00	0.00	0.12	0.09	0.12	0.09	0.14	0.16	0.07	0.12	0.10
total	100.09	99.96	99.58	99.08	100.71	99.90	100.55	100.89	101.34	100.12	99.75	99.63	101.32	100.09	101.37	100.76	100.86
Atoms per formula unit																	
Si	9.48	9.45	9.47	9.53	9.71	9.65	9.62	9.61	9.46	9.24	9.46	9.32	9.48	9.24	9.16	9.28	9.15
Al	6.52	6.55	6.53	6.46	6.28	6.35	6.38	6.39	6.61	6.82	6.58	6.69	6.54	6.83	6.94	6.77	6.93
Fe3+	0.03	0.08	0.04	0.07	0.04	0.04	0.05	0.04	0.03	0.09	0.03	0.06	0.03	0.05	0.00	0.05	0.06
Ca	2.42	2.42	2.45	2.35	2.16	2.25	2.23	2.28	2.33	2.47	2.39	2.50	2.35	2.55	2.65	2.55	2.58
Na	1.55	1.50	1.47	1.57	1.82	1.69	1.79	1.71	1.55	1.34	1.53	1.45	1.64	1.26	1.22	1.31	1.22
K	0.03	0.01	0.04	0.02	0.04	0.03	0.00	0.00	0.03	0.02	0.03	0.02	0.03	0.04	0.02	0.03	0.02
total	20.03	20.00	20.00	20.00	20.05	20.02	20.06	20.03	20.01	19.98	20.02	20.04	20.07	19.97	19.99	19.98	19.97
Or(%)	1	0	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1
Ab (%)	39	38	37	40	45	43	45	43	40	35	39	37	41	33	31	34	32
An	60	62	62	60	54	57	55	57	60	64	61	63	58	66	68	66	67

PROFILE	3	3	3	3	3	3	3	1	1	1	1	2	2	2	2	2	2
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb
CLASIF DESCRIP	Pl intc (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl rim (C)	Pl rim (C)
SAMPLE	SB-3	SB-3	SB-3	SB-12	SB-12	SB-12	SB-12	CNT-21	CNT-21	CNT-21	CNT-21	MB-5	MB-5	MB-5	MB-5	MB-5	MB-5
Label	450 (1_2)	462 (7_1)	463 (7_2)	523 (1_2)	524 (1_3)	531(6_4)	532 (6_5)	1750 [2-7]	1751[2-8]	1754 [3-3]	1755 [3-4]	1780 [1-9]	1781[1-10]	1783 [3-5]	1784 [3-6]	1785 [3-7]	1786 [3-8]
SiO2	54.83	51.71	52.08	51.91	51.12	52.11	52.51	53.30	53.12	52.98	51.76	52.08	51.45	52.22	48.81	49.52	52.26
Al2O3	28.45	30.51	30.54	30.14	30.88	30.66	30.47	30.15	29.92	29.94	31.28	29.76	30.28	30.17	32.19	32.66	30.00
FeO(t)	0.38	0.18	0.20	0.21	0.19	0.22	0.29	0.24	0.19	0.22	0.17	0.18	0.26	0.15	0.23	0.11	0.16
CaO	10.55	12.40	12.46	12.37	13.04	12.49	12.28	11.62	11.88	11.83	13.26	12.15	12.70	12.02	14.67	14.28	12.11
Na2O	5.33	4.25	4.23	4.17	3.77	4.09	4.05	4.39	4.43	4.37	3.57	4.48	4.55	4.93	3.30	3.78	4.85
K2O	0.13	0.13	0.14	0.10	0.07	0.12	0.10	0.17	0.20	0.16	0.11	0.12	0.06	0.06	0.01	0.01	0.03
total	99.66	99.19	99.66	98.89	99.05	99.68	99.69	99.88	99.75	99.50	100.15	98.77	99.30	99.56	99.20	100.36	99.41
Atoms per formula unit																	
Si	9.91	9.45	9.47	9.51	9.36	9.47	9.53	9.63	9.63	9.62	9.37	9.55	9.42	9.51	8.99	9.01	9.53
Al	6.06	6.57	6.55	6.51	6.67	6.57	6.51	6.42	6.39	6.41	6.67	6.43	6.53	6.48	6.99	7.00	6.45
Fe3+	0.06	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.03	0.03	0.04	0.02	0.04	0.02	0.02
Ca	2.04	2.43	2.43	2.43	2.56	2.43	2.39	2.25	2.31	2.30	2.57	2.39	2.49	2.35	2.89	2.78	2.37
Na	1.87	1.51	1.49	1.48	1.34	1.44	1.43	1.54	1.56	1.54	1.25	1.59	1.62	1.74	1.18	1.33	1.72
K	0.03	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.05	0.04	0.03	0.03	0.01	0.02	0.00	0.00	0.01
total	19.98	20.02	20.00	19.97	19.97	19.97	19.92	19.92	19.96	19.94	19.92	20.03	20.11	20.12	20.09	20.15	20.09
Or(%)	0.75	0.76	0.85	0.57	0.41	0.69	0.59	1.05	1.20	0.97	0.68	0.68	0.32	0.37	0.08	0.05	0.14
Ab (%)	47.37	38.01	37.72	37.65	34.19	36.96	37.18	40.19	39.81	39.64	32.53	39.76	39.21	42.46	28.88	32.34	41.96
An (%)	52	61	61	62	65	62	62	59	59	59	67	60	60	57	71	68	58

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl megacx (C)	Pl megacx (B)	Pl megacx (M)	Pl (C)	Pl (B)	Ol Web Pl (C)	Ol Gbnor Pl (C)	Ol Gbnor Pl (B)	Ol Gbnor Pl (C)	Ol Gbnor Pl (B)	Type II Ore Pl (C)	Type II Ore Pl (B)	Type II Ore Pl (B)
SAMPLE	CVD-16A	CVD-16A	CVD-16B	CVD-16B	CVD-15	CVD-15	CVD-15	CVD-15	CVD-15	PED-ODV-2	CVD-12B	CVD-12B	CVD-12B	CVD-12B	CVD-9B	CVD-9B	CVD-9B
Label	995 [2-5]	996 [2-6]	1071 [1-5]	1072 [1-6]	1027 [3-7]	1028 [3-8]	1029 [3-9]	1034 [4-5]	1035 [4-6]	966 [2-2]	844 (1-6)	845 (1-8)	852 (3-5)	853 (3-6)	1022 [2-3]	1023 [2-4]	1025 -6-2]
SiO2	52.26	49.64	51.09	49.73	52.91	50.80	52.78	52.54	51.21	50.49	51.80	51.67	50.66	51.15	52.70	52.09	48.14
Al2O3	32.18	33.43	31.95	33.03	30.37	31.39	30.49	30.20	30.88	32.75	30.78	30.92	30.94	31.27	30.29	32.00	33.95
FeO(t)	0.27	0.33	0.30	0.34	0.26	0.30	0.29	0.34	0.26	0.41	0.23	0.33	0.28	0.22	0.19	0.42	0.25
CaO	12.73	14.27	13.73	14.63	12.31	13.85	12.18	12.13	12.76	14.21	13.24	13.48	13.62	13.93	12.04	13.47	15.72
Na2O	3.93	3.12	3.71	3.23	4.64	3.66	4.58	4.34	3.82	3.35	4.27	4.12	3.83	3.92	4.53	3.98	2.55
K2O	0.15	0.08	0.13	0.08	0.13	0.11	0.13	0.13	0.08	0.06	0.10	0.10	0.09	0.00	0.02	0.02	0.03
total	101.51	100.86	100.91	101.03	100.64	100.10	100.46	99.68	99.01	101.29	100.42	100.62	99.42	100.49	99.77	101.97	100.64
Atoms per formula unit																	
Si	9.33	8.97	9.21	8.98	9.53	9.24	9.52	9.54	9.38	9.08	9.38	9.35	9.28	9.27	9.56	9.28	8.76
Al	6.77	7.12	6.79	7.03	6.45	6.73	6.48	6.46	6.66	6.94	6.57	6.59	6.68	6.68	6.47	6.72	7.28
Fe3+	0.04	0.05	0.05	0.05	0.04	0.05	0.04	0.05	0.04	0.06	0.04	0.05	0.04	0.03	0.03	0.06	0.04
Ca	2.44	2.76	2.65	2.83	2.38	2.70	2.35	2.36	2.50	2.74	2.57	2.61	2.67	2.70	2.34	2.57	3.06
Na	1.36	1.09	1.30	1.13	1.62	1.29	1.60	1.53	1.36	1.17	1.50	1.44	1.36	1.38	1.59	1.38	0.90
K	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.01	0.02	0.02	0.02	0.00	0.01	0.00	0.01
total	19.96	20.01	20.03	20.05	20.05	20.03	20.03	19.98	19.96	20.01	20.08	20.07	20.05	20.06	19.99	20.02	20.04
Or(%)	1	0	1	0	1	1	1	1	0	0	1	1	1	0	0	0	0
Ab (%)	35	28	33	28	40	32	40	39	35	30	37	35	34	34	40	35	23
An (%)	64	71	67	71	59	67	59	60	65	70	63	64	66	66	59	65	77

PROFILE	3	3	3	3	3	3	3	3	3	1	1	1	1	2	2	2	2
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas
UNIT	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb
CLASIF DESCRIP	Pl (C)	Pl (M)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)
SAMPLE	SB-S3	SB-S3	SB-S3	SB-S3	SB-S3	SB-S5	SB-S5	SB-S5	SB-S5	CNT-8	CNT-8	CNT-8	CNT-8	CNT-2	CNT-2	CNT-2	CNT-2
Label	2532 [1-1]	2533 [1-2]	2534 [1-3]	2542 [3-1]	2543 [3-2]	2552 [1-3]	2553 [1-4]	2560 [3-3]	2561 [3-4]	1305 [2-5]	1306 [2-7]	1311 [4-3]	1312 [4-4]	1293 [4-3]	1294 [4-4]	1297 [5-3]	1298 [5-4]
SiO2	51.65	51.67	48.65	50.48	49.20	51.3	50.6	50.9	50.1	52.55	52.00	52.23	50.95	52.78	51.75	52.13	52.47
Al2O3	30.05	30.19	32.33	31.98	32.46	31.0	31.3	31.4	31.7	30.23	30.01	30.27	31.46	30.05	30.44	30.16	30.45
FeO(t)	0.26	0.31	0.28	0.13	0.27	0.2	0.3	0.2	0.3	0.21	0.24	0.21	0.24	0.21	0.25	0.19	0.14
CaO	12.38	12.51	14.83	14.48	14.71	13.0	13.5	13.4	14.0	12.31	12.66	12.57	13.54	11.94	12.69	12.32	12.44
Na2O	4.12	4.18	2.78	3.33	2.86	4.1	3.8	3.8	3.5	4.88	4.54	4.68	4.29	4.67	4.35	4.53	4.57
K2O	0.12	0.14	0.06	0.06	0.06	0.1	0.1	0.1	0.1	0.15	0.09	0.14	0.06	0.13	0.08	0.13	0.10
total	98.58	99.01	98.92	100.46	99.57	99.75	99.62	99.86	99.63	100.33	99.54	100.09	100.54	99.78	99.55	99.45	100.17
Atoms per formula unit																	
Si	9.49	9.47	8.98	9.16	9.01	9.35	9.25	9.26	9.16	9.51	9.49	9.48	9.24	9.58	9.44	9.51	9.50
Al	6.51	6.52	7.03	6.84	7.01	6.66	6.73	6.75	6.83	6.45	6.45	6.47	6.72	6.43	6.54	6.48	6.50
Fe3+	0.04	0.05	0.04	0.02	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.02
Ca	2.44	2.46	2.93	2.81	2.89	2.54	2.65	2.62	2.75	2.39	2.48	2.44	2.63	2.32	2.48	2.41	2.41
Na	1.47	1.49	0.99	1.17	1.02	1.44	1.35	1.35	1.23	1.71	1.61	1.65	1.51	1.64	1.54	1.60	1.60
K	0.03	0.03	0.01	0.01	0.01	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.01	0.03	0.02	0.03	0.02
total	19.98	20.01	19.99	20.01	19.98	20.04	20.05	20.03	20.03	20.12	20.08	20.11	20.15	20.03	20.05	20.05	20.06
Or(%)	0.70	0.81	0.33	0.36	0.34	0.74	0.55	0.53	0.51	0.82	0.53	0.76	0.33	0.77	0.44	0.73	0.55
Ab (%)	37.33	37.39	25.21	29.27	25.95	35.91	33.55	33.94	30.74	41.44	39.16	39.94	36.33	41.12	38.11	39.64	39.70
An (%)	62	62	74	70	74	63	66	66	69	58	60	59	63	58	61	60	60

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF	Type II Ore	Type II Ore	Type II Ore	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss	Gb ss				
DESCRIP	Pl (B)_Sulf	Pl_Sulf (C)	Pl_sulf (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl alt (B)	Pl (C)	Pl (B)	Pl mega (C)	Pl mega (B)	Pl (C)
SAMPLE	**CVD-9B**	**CV-26**	**CV-26**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CV-31**	**CVD-8**	**CVD-8**	**CVD-8**	**CVD-8**	**CVD-8**
Label	1026 [6-3]	1062 [2-9]	1063 [2-10]	M 521(2_6)	M 520 (2_5)	M 525 (1_4)	M 524 (1_3)	M 530 (3_5)	M 529 (3_4)	M 534 (5_1)	M 535 (5_2)	M 536 (5_3)	811(1-8)	812 (1-9)	818 (2-6)	819 (2-7)	820 (2-8)
SiO2	51.27	51.83	50.59	51.84	51.53	51.36	51.27	52.27	52.12	51.78	52.11	51.56	48.19	49.05	52.40	51.59	52.19
Al2O3	32.56	30.54	32.67	30.61	30.47	29.95	31.17	30.67	30.89	30.22	30.18	30.27	33.02	31.80	29.83	31.00	30.55
FeO(t)	0.31	0.40	0.27	0.30	0.28	0.28	0.37	0.27	0.26	0.32	0.26	0.19	0.25	0.32	0.28	0.31	0.29
CaO	13.75	12.24	13.80	13.11	12.91	13.54	13.75	12.99	13.22	12.94	13.03	13.70	15.75	15.09	12.50	13.57	13.29
Na2O	3.79	4.46	3.74	4.11	4.16	3.95	3.81	4.14	4.04	4.28	4.24	3.81	2.72	3.06	4.76	4.12	4.21
K2O	0.02	0.04	0.02	0.11	0.12	0.10	0.10	0.10	0.09	0.15	0.14	0.11	0.00	0.02	0.04	0.11	0.13
total	**101.70**	**99.50**	**101.08**	**100.08**	**99.47**	**99.18**	**100.47**	**100.43**	**100.63**	**99.69**	**99.96**	**99.63**	**99.92**	**99.34**	**99.81**	**100.70**	**100.66**
Atoms per formula unit																	
Si	9.17	9.44	9.11	9.41	9.41	9.42	9.29	9.45	9.41	9.44	9.47	9.41	8.83	9.03	9.53	9.33	9.43
Al	6.86	6.56	6.93	6.55	6.56	6.48	6.66	6.53	6.57	6.50	6.47	6.51	7.13	6.90	6.39	6.61	6.50
Fe3+	0.05	0.06	0.04	0.05	0.04	0.04	0.06	0.04	0.04	0.05	0.04	0.03	0.04	0.05	0.04	0.05	0.04
Ca	2.64	2.39	2.66	2.55	2.53	2.66	2.67	2.52	2.56	2.53	2.54	2.68	3.09	2.97	2.44	2.63	2.57
Na	1.32	1.58	1.31	1.45	1.47	1.41	1.34	1.45	1.41	1.51	1.49	1.35	0.96	1.09	1.68	1.44	1.48
K	0.00	0.01	0.00	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.00	0.00	0.01	0.03	0.03
total	**20.03**	**20.04**	**20.06**	**20.03**	**20.04**	**20.03**	**20.03**	**20.01**	**20.01**	**20.06**	**20.04**	**20.00**	**20.06**	**20.05**	**20.09**	**20.08**	**20.05**
Or(%)	0	0	0	1	1	1	1	1	1	1	1	1	0.00	0.11	0.24	0.63	0.75
Ab (%)	33	40	33	36	37	34	33	36	35	37	37	33	23.78	26.85	40.68	35.25	36.17
An (%)	**67**	**60**	**67**	**63**	**63**	**65**	**66**	**63**	**64**	**62**	**62**	**66**	**76**	**73**	**59**	**64**	**63**

PROFILE	3	3	3	1	1	1	1	2	2	2	2	3	3	3	3	0	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Bas	Low	Low
UNIT	Px Gb	Px Gb	Px Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Px Gb I	Px Gb I
CLASIF																Cpxnt- Ore	Cpxnt- Ore
DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)
SAMPLE	**CNT-29**	**CNT-29**	**CNT-29**	**CNT-9**	**CNT-9**	**CNT-9**	**CNT-9**	**CNT-1**	**CNT-1**	**CNT-1**	**CNT-1**	**CNT-30**	**CNT-30**	**CNT-30**	**CNT-30**	**FG-6-A2**	**FG-6-A2**
Label	1324 [4-7]	1325 [4-8]	1329 [5-7]	1522 [1-10]	1523 [1-11]	1529 [3-8]	1530 [3-9]	1504 [1-6]	1505 [1-7]	1510 [2-4]	1511[2-5]	1574 [5-5]	1575 [5-6]	1579 [6-4]	1580 [6-5]	704 (1_1)	705 (1_2)
SiO2	51.87	50.09	51.50	53.32	52.56	53.02	47.58	51.43	51.94	53.63	50.46	54.62	53.95	54.42	53.90	51.14	50.59
Al2O3	30.19	28.99	30.30	29.31	29.88	29.55	33.22	31.20	31.29	29.57	32.40	29.60	29.76	29.46	29.66	30.50	30.87
FeO(t)	0.18	0.35	0.24	0.18	0.19	0.26	0.42	0.22	0.22	0.21	0.23	0.19	0.24	0.35	0.20	0.33	0.40
CaO	12.88	15.25	13.10	12.27	12.84	12.63	17.20	14.06	14.30	12.80	15.47	11.09	11.75	11.16	11.60	12.71	12.72
Na2O	4.51	3.82	4.44	4.89	4.47	4.90	2.10	3.47	3.52	4.44	2.90	4.82	4.58	4.59	4.67	4.39	4.27
K2O	0.13	0.11	0.11	0.20	0.13	0.15	0.05	0.09	0.05	0.12	0.05	0.15	0.14	0.18	0.16	0.16	0.11
total	**99.76**	**98.62**	**99.69**	**100.17**	**100.08**	**100.51**	**100.58**	**100.49**	**101.32**	**100.78**	**101.50**	**100.47**	**100.41**	**100.15**	**100.19**	**99.24**	**98.95**
Atoms per formula unit																	
Si	9.45	9.32	9.40	9.66	9.54	9.59	8.70	9.31	9.32	9.65	9.08	9.79	9.70	9.79	9.71	9.37	9.30
Al	6.48	6.36	6.52	6.26	6.39	6.30	7.16	6.66	6.62	6.27	6.87	6.25	6.31	6.25	6.30	6.59	6.69
Fe3+	0.03	0.05	0.04	0.03	0.03	0.04	0.06	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.03	0.05	0.06
Ca	2.52	3.04	2.56	2.38	2.50	2.45	3.37	2.73	2.75	2.47	2.98	2.13	2.26	2.15	2.24	2.50	2.51
Na	1.59	1.38	1.57	1.72	1.57	1.72	0.75	1.22	1.22	1.55	1.01	1.68	1.60	1.60	1.63	1.56	1.52
K	0.03	0.03	0.03	0.05	0.03	0.03	0.01	0.02	0.01	0.03	0.01	0.03	0.03	0.04	0.04	0.04	0.02
total	**20.10**	**20.18**	**20.12**	**20.08**	**20.06**	**20.12**	**20.06**	**19.97**	**19.97**	**19.99**	**19.98**	**19.92**	**19.94**	**19.88**	**19.95**	**20.11**	**20.10**
Or(%)	0.73	0.57	0.63	1.14	0.71	0.81	0.29	0.53	0.30	0.71	0.28	0.90	0.80	1.11	0.93	0.92	0.62
Ab (%)	38.52	31.03	37.76	41.43	38.40	40.93	18.07	30.72	30.71	38.30	25.24	43.63	41.04	42.20	41.76	38.13	37.57
An (%)	**61**	**68**	**62**	**57**	**61**	**58**	**82**		**69**	**69**	**61**	**74**	**55**	**57**	**57**	**61**	**62**

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF		PxPorh Ol	PxPorh Ol	PxPorh Ol	PxPorh Ol	PxPorh Ol					Anort	Anort	Anort	Anort	Anort	Anort	Ol Gb
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl megacx (C)	Pl megacx (B)	Pl sub-grain (C)	Pl fractured (C)	Pl (C)
SAMPLE	CVD-8	CVD-6A1	CVD-6A1	CVD-6A1	CVD-6A1	CVD-6A1	CVD-4A	CVD-4A	CVD-4A	CVD-4A	CVD-3	CVD-3	CVD-3	CVD-3	CVD-3	CVD-3	CVD-2A
Label	821(2-9)	790 [2-5]	791[2-6]	790A [2-5A]	800 [1-8]	801[1-9]	828 (1-3)	829 (1-4)	840 (2-5)	841(2-6)	910 [1-1]	911[1-2]	913 [2-1]	914 [2-2]	917 [3-3]	918 [3-4]	864 (1-7)
SiO2	51.49	52.30	49.88	53.27	52.18	52.53	51.44	50.09	51.22	51.46	54.83	53.82	52.49	52.69	54.13	53.75	53.02
Al2O3	30.75	30.14	31.17	29.37	30.35	30.45	30.85	31.70	30.94	30.15	29.91	30.51	30.38	31.01	30.70	30.55	29.64
FeO(t)	0.35	0.36	0.44	0.30	0.26	0.37	0.25	0.28	0.21	0.23	0.34	0.36	0.34	0.23	0.07	0.19	0.22
CaO	13.70	12.42	13.71	11.89	12.87	12.81	13.09	13.60	13.14	12.60	11.86	12.26	12.67	12.84	12.31	12.30	11.98
Na2O	3.97	4.57	3.54	4.81	4.31	4.62	3.94	3.72	3.96	4.37	4.74	4.52	4.37	4.33	4.66	4.49	4.74
K2O	0.13	0.05	0.06	0.11	0.10	0.05	0.11	0.09	0.10	0.09	0.16	0.20	0.17	0.12	0.03	0.02	0.13
total	100.39	99.83	98.80	99.75	100.07	100.83	99.67	99.48	99.57	98.91	101.84	101.68	100.42	101.22	101.92	101.30	99.73
Atoms per formula unit																	
Si	9.34	9.50	9.20	9.67	9.47	9.47	9.37	9.17	9.35	9.45	9.73	9.59	9.49	9.45	9.60	9.59	9.63
Al	6.57	6.45	6.77	6.28	6.49	6.47	6.62	6.84	6.65	6.52	6.25	6.40	6.47	6.55	6.42	6.43	6.34
Fe3+	0.05	0.05	0.07	0.05	0.04	0.06	0.04	0.04	0.03	0.04	0.05	0.05	0.05	0.03	0.01	0.03	0.03
Ca	2.66	2.42	2.71	2.31	2.50	2.47	2.56	2.67	2.57	2.48	2.25	2.34	2.45	2.47	2.34	2.35	2.33
Na	1.40	1.61	1.26	1.69	1.52	1.62	1.39	1.32	1.40	1.56	1.63	1.56	1.53	1.50	1.60	1.55	1.67
K	0.03	0.01	0.02	0.03	0.02	0.01	0.03	0.02	0.02	0.02	0.04	0.05	0.04	0.03	0.01	0.00	0.03
total	20.06	20.05	20.02	20.03	20.04	20.09	20.00	20.06	20.02	20.06	19.95	19.99	20.04	20.03	19.99	19.96	20.03
Or(%)	0.72	0.27	0.38	0.62	0.56	0.27	0.64	0.54	0.61	0.51	0.93	1.17	0.96	0.70	0.20	0.12	0.74
Ab (%)	34.16	39.87	31.70	42.03	37.53	39.40	35.01	32.95	35.07	38.37	41.55	39.56	38.05	37.63	40.57	39.75	41.39
An (%)	65	60	68	57	62	60	64	67	64	61	58	59	61	62	59	60	58

PROFILE	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
CLASIF	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore	Cpxnt-Ore							Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Ol Leucog core	Norite Gb rim
DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl megacx (C)	Pl megacx (B)	Pl (C)
SAMPLE	FG-6-A2	FG-6-A2	FG-6-A2	FG-6-A2	CNT-10	CNT-10	CNT-10	CNT-10	CNT-10	CNT-10	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	FG-4
Label	706 (1_1)	707 (1_2)	708 (2_1)	709 (2_2)	1534 [2-6]	1535 [2-7]	1538 [4-5]	1539 [4-6]	1542 [5-3]	1543 [5-4]	1963 [3-6]	1964 [3-7]	1976 [6-5]	1977 [6-6]	1982 [7-5]	1983 [7-6]	1892 [1-3]
SiO2	51.35	51.73	51.52	52.27	53.47	53.90	53.72	53.88	53.84	53.58	52.84	52.43	53.18	53.49	53.40	53.48	53.87
Al2O3	30.37	31.06	30.30	30.19	30.12	30.15	29.71	30.52	29.67	29.90	30.41	29.87	30.84	31.04	30.37	30.40	30.80
FeO(t)	0.54	0.42	0.37	0.40	0.25	0.36	0.23	0.38	0.22	0.23	0.15	0.28	0.25	0.27	0.52	0.14	0.18
CaO	12.30	12.65	12.37	12.20	11.70	11.74	11.41	11.96	11.41	11.83	11.81	11.49	11.92	11.95	11.57	11.60	11.41
Na2O	4.44	4.33	4.50	4.51	4.50	4.72	4.57	4.45	4.49	4.50	4.48	4.54	4.54	4.67	4.60	4.65	4.76
K2O	0.35	0.11	0.15	0.13	0.15	0.10	0.12	0.15	0.14	0.11	0.12	0.06	0.17	0.08	0.19	0.19	0.17
total	99.36	100.31	99.21	99.70	100.19	100.97	99.75	101.32	99.77	100.15	99.81	98.67	100.91	101.50	100.64	100.46	101.19
Atoms per formula unit																	
Si	9.40	9.37	9.43	9.51	9.64	9.65	9.71	9.61	9.73	9.66	9.57	9.60	9.53	9.53	9.59	9.62	9.61
Al	6.55	6.63	6.54	6.47	6.40	6.36	6.33	6.42	6.32	6.36	6.49	6.45	6.52	6.52	6.43	6.44	6.48
Fe3+	0.08	0.06	0.06	0.06	0.04	0.05	0.03	0.06	0.03	0.04	0.02	0.04	0.04	0.04	0.08	0.02	0.03
Ca	2.41	2.45	2.43	2.38	2.26	2.25	2.21	2.29	2.21	2.29	2.29	2.25	2.29	2.28	2.23	2.24	2.18
Na	1.58	1.52	1.60	1.59	1.57	1.64	1.60	1.54	1.57	1.57	1.57	1.61	1.58	1.61	1.60	1.62	1.65
K	0.08	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.01	0.04	0.02	0.04	0.04	0.04
total	20.11	20.06	20.09	20.04	19.95	19.97	19.92	19.94	19.90	19.94	19.97	19.97	20.00	20.00	19.98	19.98	19.98
Or(%)	2.03	0.65	0.84	0.77	0.90	0.58	0.71	0.86	0.87	0.63	0.69	0.36	0.99	0.44	1.15	1.09	1.02
Ab (%)	38.70	37.99	39.36	39.77	40.70	41.89	41.73	39.86	41.21	40.53	40.44	41.52	40.41	41.23	41.33	41.55	42.57
An (%)	59	61	60	59	58	58	58	59	58	59	58.87	58.12	58.60	58.32	57.51	57.35	56.41

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb						
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (B)?	Pl (C)	Pl bleb Ol (C)	Pl intc (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	
SAMPLE	CVD-2A	CVD-2A	CVD-2A	CVD-2C	CVD-2C	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-2D	CVD-1A	CVD-1A	CVD-1A	CVD-1A	CVD-20	CVD-20	
Label	865 (1-8)	872 (2-7)	873 (2-8)	904 [3-6]	905 [3-7]	882 (1-8)	883 (1-9)	883 (1-9)	888 (2-3)	891(2-6)	898 [4-4]	973 [1-5]	974 [1-6]	980 [2-5]	981[2-6]	931[3-7]	932 [3-8]	
SiO2	52.05	52.68	52.74	53.11	52.99	51.67	51.56	51.27	50.96	51.64	52.61	53.70	51.78	53.56	51.69	52.49	51.18	
Al2O3	31.20	29.88	29.85	30.49	30.48	29.89	30.72	30.20	30.48	31.09	31.27	29.74	30.91	29.70	30.64	29.84	31.00	
FeO(t)	0.37	0.25	0.35	0.22	0.14	0.23	0.68	0.25	0.36	0.53	0.26	0.27	0.29	0.28	0.48	0.22	0.23	
CaO	13.59	12.55	12.51	12.09	12.04	12.35	12.76	12.81	13.03	13.13	13.25	11.32	12.55	11.55	12.45	11.80	13.18	
Na2O	3.91	4.50	4.67	4.47	4.57	4.71	4.39	4.54	4.36	4.36	4.05	4.75	4.07	4.76	3.91	4.76	4.25	
K2O	0.07	0.08	0.08	0.12	0.11	0.08	0.11	0.12	0.07	0.16	0.09	0.14	0.09	0.12	0.06	0.17	0.12	
total	101.18	99.95	100.20	100.50	100.33	98.94	100.21	99.19	99.25	100.91	101.52	99.91	99.69	99.96	99.22	99.28	99.96	
Atoms per formula unit																		
Si	9.35	9.56	9.55	9.56	9.56	9.48	9.36	9.40	9.35	9.32	9.40	9.70	9.41	9.68	9.44	9.58	9.32	
Al	6.61	6.39	6.37	6.47	6.48	6.47	6.57	6.53	6.59	6.61	6.59	6.33	6.62	6.33	6.59	6.42	6.65	
Fe3+	0.06	0.04	0.05	0.03	0.02	0.04	0.10	0.04	0.05	0.08	0.04	0.04	0.04	0.04	0.07	0.03	0.04	
Ca	2.62	2.44	2.43	2.33	2.33	2.43	2.48	2.52	2.56	2.54	2.54	2.19	2.45	2.24	2.43	2.31	2.57	
Na	1.36	1.58	1.64	1.56	1.60	1.68	1.55	1.61	1.55	1.53	1.41	1.66	1.43	1.67	1.39	1.68	1.50	
K	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.02	0.04	0.02	0.03	0.02	0.03	0.01	0.04	0.03	
total	20.01	20.03	20.06	19.98	20.00	20.11	20.09	20.13	20.12	20.12	19.99	19.96	19.98	19.98	19.93	20.06	20.10	
Or(%)	0.39	0.47	0.44	0.70	0.64	0.46	0.61	0.69	0.37	0.89	0.51	0.81	0.56	0.69	0.34	0.97	0.67	
Ab (%)	34.08	39.14	40.15	39.82	40.44	40.67	38.15	38.80	37.58	37.23	35.46	42.82	36.74	42.42	36.14	41.80	36.61	
An (%)	66	60	59	59	59	59	61	61	62	62	64	56	63	57	64	57	63	

PROFILE	0	0	0	0	0	1	1	1	1	2	2	2	2	2	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
CLASIF	Norite Gb rim	Norite Gb rim	Norite Gb rim	Norite Gb rim	Norite Gb rim												
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)
SAMPLE	FG-4	FG-4	FG-4	FG-4	FG-4	CNT-11	CNT-11	CNT-11	CNT-11	MB-4	MB-4	MB-4	MB-4	MB-4	CNT-7	CNT-7	CNT-7
Label	1893 [1-4]	1899 [2-7]	1900 [2-8]	1904 [3-3]	1905 [3-4]	1630 [1-7]	1631[1-8]	1638 [2-7]	1639 [2-8]	1848 [1-7]	1849 [1-8]	1852 [2-3]	1855 [2-6]	1856 [2-7]	1604 [1-3]	1605 [1-4]	1610 [2-3]
SiO2	53.23	53.22	52.05	52.78	53.55	53.47	53.14	53.49	53.50	48.91	47.81	48.79	48.75	48.37	51.51	51.26	51.72
Al2O3	30.78	31.20	31.95	30.63	31.06	29.65	29.85	29.87	29.88	32.33	32.98	32.62	32.04	33.42	31.05	30.99	31.11
FeO(t)	0.21	0.18	0.18	0.24	0.29	0.15	0.27	0.20	0.32	0.21	0.23	0.25	0.29	0.30	0.28	0.32	0.37
CaO	11.79	12.00	12.42	11.10	11.32	11.78	12.23	12.28	12.27	14.83	15.40	14.88	14.86	15.69	13.55	13.60	13.53
Na2O	4.47	4.57	4.04	4.51	4.59	4.61	4.42	4.63	4.55	3.09	2.57	3.15	3.11	2.73	3.76	3.62	3.86
K2O	0.12	0.12	0.09	0.19	0.06	0.12	0.09	0.19	0.10	0.05	0.05	0.06	0.06	0.05	0.15	0.08	0.11
total	100.59	101.28	100.72	99.44	100.88	99.77	99.99	100.66	100.63	99.42	99.05	99.76	99.12	100.56	100.30	99.87	100.69
Atoms per formula unit																	
Si	9.56	9.50	9.35	9.57	9.57	9.68	9.62	9.63	9.63	8.99	8.83	8.94	8.99	8.81	9.34	9.33	9.34
Al	6.51	6.57	6.77	6.55	6.54	6.33	6.37	6.34	6.34	7.00	7.18	7.05	6.97	7.17	6.63	6.65	6.62
Fe3+	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.03	0.05	0.03	0.03	0.04	0.05	0.05	0.04	0.05	0.06
Ca	2.27	2.30	2.39	2.16	2.17	2.29	2.37	2.37	2.37	2.92	3.05	2.92	2.94	3.06	2.63	2.65	2.62
Na	1.56	1.58	1.41	1.59	1.59	1.62	1.55	1.62	1.59	1.10	0.92	1.12	1.11	0.96	1.32	1.28	1.35
K	0.03	0.03	0.02	0.04	0.01	0.03	0.02	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.04	0.02	0.02
total	19.96	20.00	19.96	19.95	19.93	19.96	19.97	20.02	19.99	20.05	20.03	20.08	20.07	20.07	20.00	19.97	20.01
Or(%)	0.68	0.68	0.53	1.13	0.38	0.70	0.51	1.07	0.58	0.29	0.32	0.36	0.36	0.31	0.88	0.46	0.62
Ab (%)	40.41	40.55	36.84	41.90	42.15	41.17	39.34	40.13	39.92	27.31	23.15	27.59	27.38	23.85	33.15	32.35	33.81
An (%)	58.91	58.78	62.63	56.97	57.47	58.13	60.15	58.80	59.50	72.40	76.53	72.05	72.25	75.83	65.97	67.18	65.57

Table C.4- EPMA results for plagioclase (cont)

PROFILE	-	-	1	1	1	1	1	1	1	2	2	2	2	3	3	3	3
SERIES	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Upp	Upp	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog III	Ol Leucog III	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb
CLASIF			Hb Gb	Hb Gb	Hb Gb	Hb Gb	Hb Gb	Hb Gb	Hb Gb								
DESCRIP	Pl (C)	Pl (B)	Pl lath (C)	Pl lath (B)	Pl megacx zon (C)	Pl megacx zon (B)	Pl (C)	Pl (C)	Pl lath in Cpx (C)	Pl microl (C)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)
SAMPLE	CVD-20	CVD-20	PEROG 5	PEROG 5	PEROG 5	PEROG 5	PEROG 5	PEROG 5	PEROG 5	CNT-23A	CNT-23A	CNT-23A	CNT-23A	CNT-25-2	CNT-25-2	CNT-25-2	CNT-25-2
Label	939 [4-9]	940 [4-10]	1908 [1-1]	1909 [1-2]	1912 [1-5]	1913 [1-6]	1917 [2-4]	1918 [2-5]	1923 [3-3]	1490 [2-3]	1493 [2-6]	1497 [3-3]	1498 [3-4]	1241 [2-5]	1242 [2-6]	1247 [3-4]	1248 [3-5]
SiO2	51.59	53.08	50.66	48.82	48.46	50.28	48.77	48.87	48.95	50.14	50.89	51.52	51.23	48.81	48.01	48.96	48.84
Al2O3	31.32	30.66	32.04	33.51	33.37	32.83	33.68	33.34	33.43	30.90	30.90	30.30	30.23	32.21	33.19	32.65	32.79
FeO(t)	0.35	0.26	0.13	0.18	0.10	0.10	0.17	0.18	0.23	0.24	0.25	0.21	0.84	0.36	0.29	0.34	1.29
CaO	13.01	12.25	13.57	14.73	14.95	13.87	14.97	14.94	14.82	14.21	14.21	13.64	12.70	14.66	15.43	14.90	14.89
Na2O	4.15	4.68	3.46	2.79	2.71	3.25	2.71	2.76	2.77	3.82	4.02	4.29	4.19	2.92	2.62	2.93	2.78
K2O	0.12	0.15	0.04	0.00	0.00	0.05	0.04	0.02	0.02	0.12	0.09	0.18	0.12	0.08	0.07	0.01	0.08
total	100.55	101.08	99.90	100.04	99.60	100.39	100.34	100.10	100.23	99.44	100.37	100.14	99.31	99.03	99.60	99.78	100.67
Atoms per formula unit																	
Si	9.33	9.52	9.21	8.90	8.88	9.10	8.87	8.91	8.91	9.21	9.26	9.38	9.38	9.00	8.82	8.96	8.88
Al	6.67	6.48	6.86	7.20	7.20	7.00	7.22	7.16	7.17	6.69	6.62	6.50	6.53	7.00	7.19	7.04	7.03
Fe3+	0.05	0.04	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.03	0.13	0.06	0.04	0.05	0.20
Ca	2.52	2.35	2.64	2.88	2.93	2.69	2.92	2.92	2.89	2.80	2.77	2.66	2.49	2.89	3.04	2.92	2.90
Na	1.46	1.63	1.22	0.99	0.96	1.14	0.96	0.97	0.98	1.36	1.42	1.52	1.49	1.04	0.93	1.04	0.98
K	0.03	0.03	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.03	0.02	0.04	0.03	0.02	0.02	0.00	0.02
total	20.05	20.05	19.96	19.99	19.99	19.96	19.99	19.99	19.98	20.12	20.13	20.13	20.05	20.01	20.04	20.01	20.01
Or(%)	0.67	0.84	0.23	0.01	0.01	0.33	0.22	0.12	0.11	0.68	0.51	1.02	0.67	0.46	0.42	0.04	0.48
Ab (%)	36.38	40.55	31.52	25.55	24.71	29.68	24.62	25.01	25.24	32.53	33.71	35.93	37.15	26.39	23.41	26.22	25.16
An (%)	63	59	68	74	75	70	75	75	75	67	66	63	62	73	76	74	74

PROFILE	3	3	3	1	1	1	1	1	0	0	0	0	0	0	0	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb I-Ol Leucog I	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF																	Porh Gb
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (B)	Pl microl (C)	Pl_rim (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)
SAMPLE	CNT-7	CNT-7	CNT-7	MB-1	MB-1	MB-1	MB-1	MB-1	FG-3	FG-3	FG-3	FG-3	FG-3	FG-3	FG-3	CNT-12	CNT-12
Label	1611 [2-4]	1616 [3-3]	1617 [3-4]	1865 [3-17]	1866 [3-18]	1872 [4-7]	1873 [4-8]	1876 [5-3]	1935 [1-9]	1936 [2-5]	1937A [2-6]	1939 [2-8]	1940 [2-9]	1944 [4-1]	1945 [4-2]	1642 [2-6]	1643 [2-7]
SiO2	51.71	51.78	52.14	51.48	50.80	50.43	50.23	49.68	49.80	51.78	52.95	52.20	52.06	52.18	51.53	50.44	49.87
Al2O3	30.78	30.80	30.72	32.00	32.41	32.40	32.69	32.87	32.42	30.78	31.00	30.83	31.41	30.89	30.51	31.05	31.24
FeO(t)	0.30	0.33	0.31	0.15	0.27	0.22	1.11	0.25	0.27	0.53	0.26	0.18	0.17	0.22	0.18	0.17	0.24
CaO	13.49	13.61	13.74	12.95	13.23	13.32	13.17	14.20	13.66	12.17	11.78	11.82	12.50	11.82	11.98	13.78	13.97
Na2O	3.82	3.75	3.89	3.70	3.55	3.59	3.13	3.16	3.40	4.26	4.65	4.44	4.16	4.45	4.47	3.69	3.54
K2O	0.10	0.12	0.11	0.11	0.11	0.11	0.09	0.07	0.04	0.07	0.03	0.04	0.03	0.17	0.02	0.07	0.10
total	100.19	100.39	100.91	100.40	100.36	100.08	100.43	100.23	99.59	99.59	100.67	99.51	100.34	99.74	98.69	99.20	98.96
Atoms per formula unit																	
Si	9.38	9.38	9.40	9.29	9.19	9.16	9.09	9.03	9.10	9.42	9.51	9.49	9.40	9.47	9.45	9.26	9.19
Al	6.58	6.57	6.53	6.81	6.91	6.93	6.97	7.04	6.98	6.60	6.56	6.60	6.68	6.61	6.60	6.72	6.78
Fe3+	0.05	0.05	0.05	0.02	0.04	0.03	0.17	0.04	0.04	0.08	0.04	0.03	0.03	0.03	0.03	0.03	0.04
Ca	2.62	2.64	2.65	2.51	2.56	2.59	2.55	2.76	2.67	2.37	2.27	2.30	2.42	2.30	2.35	2.71	2.76
Na	1.34	1.31	1.36	1.30	1.25	1.26	1.10	1.11	1.20	1.50	1.62	1.56	1.46	1.57	1.59	1.31	1.26
K	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.04	0.01	0.02	0.02
total	19.99	19.98	20.01	19.95	19.97	20.00	19.90	20.00	20.00	19.99	20.00	19.99	19.98	20.01	20.03	20.04	20.05
Or(%)	0.57	0.72	0.61	0.68	0.65	0.64	0.58	0.44	0.23	0.40	0.20	0.23	0.20	1.00	0.14	0.38	0.57
Ab (%)	33.72	33.01	33.67	33.86	32.48	32.58	29.93	28.59	30.98	38.61	41.57	40.37	37.53	40.14	40.25	32.52	31.24
An (%)	65.72	66.27	65.72	65.45	66.87	66.78	69.50	70.97	68.79	60.99	58.23	59.40	62.27	58.87	59.62	67.10	68.19

Table C.4- EPMA results for plagioclase (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	PxGb	PxGb	PxGb	Cpxnt-Microgb	Cpxnt-Microgb	Cpxnt-Microgb	Cpxnt-Microgb	Microgb	Microgb	Microgb	Microgb	Microgb	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog II
CLASIF				Cpxnt	Cpxnt	Microgb	Microgb						Anort	Anort	Anort	Anort	
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl intc (C)	Pl intc (B)	Pl intc (C)	Pl intc (C)	Pl lath (C)	Pl cum (C)	Pl lath (C)	Pl intc (C)	Pl (B)	Pl (C)	Pl megacx (C)	Pl megacx (B)	Pl buble (C)	Pl (C)
SAMPLE	CNT-25-2	CNT-25-2	CNT-25-2	SB-N1	SB-N1	SB-N1	SB-N1	CNT-24	CNT-24	CNT-24	CNT-24	CNT-24	SB-33	SB-33	SB-33	SB-33	CNT-26
Label	1249 [3-6]	1253 [4-4]	1254 [4-5]	1481[2-5]]	1482 [2-6]]	1477 [1-8]	1478 [1-9]	1456 [1-3]	1462 [4-3]	1463 [4-4]	1468 [5-5]	1457 [2-1]	1709[2-1]	1711[3-1]	1712[3-2]	1713[3-3]	1375 [3-4]
SiO2	47.96	47.33	47.34	54.89	55.60	51.14	50.72	53.01	52.37	52.49	52.06	53.71	52.01	51.68	52.17	52.98	52.95
Al2O3	32.43	33.31	33.32	27.92	28.02	30.46	31.29	30.16	30.35	30.18	29.84	30.02	29.85	30.87	30.60	30.03	29.86
FeO(t)	0.94	0.25	0.33	0.15	0.19	0.18	0.24	0.43	0.19	0.22	0.12	0.18	0.17	0.39	0.20	0.27	0.22
CaO	14.74	16.07	16.68	10.03	10.14	12.88	13.88	11.93	12.01	12.04	11.96	11.36	11.91	12.82	12.54	12.20	11.75
Na2O	2.87	2.32	2.14	5.66	5.94	4.32	3.82	4.43	4.60	4.52	4.53	4.66	4.46	4.06	4.26	4.61	4.68
K2O	0.07	0.03	0.04	0.36	0.38	0.12	0.11	0.08	0.11	0.08	0.16	0.17	0.15	0.17	0.14	0.19	0.10
total	99.00	99.31	99.85	99.00	100.27	99.09	100.07	100.04	99.63	99.53	98.68	100.11	98.55	100.00	99.91	100.27	99.55
Atoms per formula unit																	
Si	8.87	8.74	8.71	9.99	10.00	9.38	9.24	9.58	9.52	9.55	9.56	9.68	9.56	9.39	9.47	9.58	9.62
Al	7.07	7.25	7.22	5.99	5.94	6.59	6.72	6.43	6.50	6.47	6.46	6.38	6.46	6.61	6.54	6.40	6.39
Fe3+	0.14	0.04	0.05	0.02	0.03	0.03	0.04	0.06	0.03	0.03	0.02	0.03	0.03	0.06	0.03	0.04	0.03
Ca	2.92	3.18	3.29	1.96	1.95	2.53	2.71	2.31	2.34	2.35	2.35	2.19	2.34	2.49	2.44	2.36	2.29
Na	1.03	0.83	0.76	2.00	2.07	1.54	1.35	1.55	1.62	1.59	1.61	1.63	1.59	1.43	1.50	1.61	1.65
K	0.02	0.01	0.01	0.08	0.09	0.03	0.03	0.02	0.03	0.02	0.04	0.04	0.03	0.04	0.03	0.04	0.02
total	20.05	20.04	20.04	20.04	20.09	20.09	20.07	19.96	20.04	20.01	20.03	19.95	20.01	20.02	20.01	20.03	20.00
Or(%)	0.41	0.19	0.22	2.10	2.12	0.69	0.65	0.47	0.64	0.48	0.96	0.99	0.88	1.01	0.81	1.06	0.60
Ab (%)	25.93	20.64	18.79	49.45	50.37	37.52	33.01	40.02	40.68	40.26	40.29	42.20	40.04	36.07	37.75	40.15	41.62
An (%)	74	79	81	48	48	62	66	60	59	59	59	57	59	63	61	59	58

PROFILE	1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II	PxGb II
CLASIF	Porh Gb	Porh Gb	Porh Gb														
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)
SAMPLE	CNT-12	CNT-12	CNT-12	CNT-14	CNT-14	CNT-14	CNT-14	CNT-32	CNT-32	CNT-32	CNT-32	CNT-32	CNT-6A	CNT-6A	CNT-6A	CNT-6A	CNT-6A
Label	1644 [2-8]	1659 [5-3]	1660 [5-4]	1718 [3-7]	1719 [3-8]	1722 [4-4]	1723 [4-5]	1761[1-4]	1762 [1-5]	1765 [2-3]	1774 [3-8]	1775 [3-9]	1586 [1-6]	1587 [1-7]	1594 [2-6]	1595 [2-7]	1598 [3-3]
SiO2	50.54	51.60	49.92	50.59	51.32	51.92	49.93	51.88	51.78	50.92	52.43	51.66	52.24	50.63	52.43	50.98	52.71
Al2O3	31.01	31.02	32.13	30.93	31.71	31.07	32.51	30.59	30.77	31.04	30.64	31.13	30.65	31.20	30.03	30.46	30.77
FeO(t)	0.27	0.27	0.32	0.23	0.23	0.39	0.24	0.25	0.24	0.27	0.30	0.65	0.16	0.24	0.16	0.30	0.15
CaO	13.74	13.55	15.02	13.27	13.39	13.16	14.29	12.63	12.72	13.32	12.54	13.08	12.92	13.67	12.36	13.07	12.52
Na2O	3.67	4.04	3.27	3.88	3.65	3.94	3.31	4.04	3.96	3.75	4.16	3.98	3.89	3.44	4.20	3.84	4.15
K2O	0.08	0.09	0.07	0.13	0.09	0.15	0.10	0.14	0.12	0.09	0.10	0.09	0.08	0.06	0.08	0.07	0.15
total	99.32	100.58	100.73	99.03	100.40	100.63	100.38	99.53	99.58	99.40	100.17	100.60	99.95	99.24	99.26	98.73	100.44
Atoms per formula unit																	
Si	9.26	9.33	9.06	9.29	9.28	9.37	9.07	9.45	9.43	9.31	9.48	9.33	9.47	9.27	9.56	9.38	9.50
Al	6.70	6.61	6.87	6.70	6.76	6.61	6.96	6.57	6.60	6.69	6.53	6.63	6.55	6.73	6.45	6.60	6.54
Fe3+	0.04	0.04	0.05	0.04	0.03	0.06	0.04	0.04	0.04	0.04	0.05	0.10	0.02	0.04	0.03	0.05	0.02
Ca	2.70	2.63	2.92	2.61	2.59	2.54	2.78	2.46	2.48	2.61	2.43	2.53	2.51	2.68	2.41	2.58	2.42
Na	1.30	1.42	1.15	1.38	1.28	1.38	1.17	1.43	1.40	1.33	1.46	1.39	1.37	1.22	1.48	1.37	1.45
K	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.03
total	20.03	20.06	20.06	20.05	19.97	20.00	20.03	19.98	19.97	20.00	19.97	20.01	19.94	19.96	19.95	19.99	19.96
Or(%)	0.46	0.52	0.42	0.76	0.53	0.88	0.57	0.83	0.69	0.55	0.57	0.53	0.48	0.38	0.47	0.42	0.87
Ab (%)	32.43	34.88	28.12	34.31	32.88	34.85	29.36	36.39	35.79	33.57	37.29	35.32	35.09	31.14	37.88	34.57	37.14
An (%)	67.11	64.60	71.46	64.93	66.59	64.27	70.07	62.78	63.52	65.88	62.14	64.15	64.43	68.48	61.65	65.01	61.99

Table C.4- EPMA results for plagioclase (cont)

PROFILE	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II-Cum
CLASIF DESCRIP	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl microl (C)	Pl (B)	Pl cum (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl megacx (C)	Pl megacx (B)	Pl (C)	Pl (B)	Pl (C)
SAMPLE	CNT-26	CNT-26	CNT-19	CNT-19	CNT-19	CNT-19	CNT-19	CNT-19	CNT-19	CNT-19	SB-W3	SB-W3	SB-W3	SB-W3	SB-W3	SB-W3	CNT-17-1
Label	1381 [4-5]	1382 [4-6]	1553 [3-3]	1556 [3-6]	1557 [3-7]	1558 [3-8]	1561 [4-3]	1562 [4-4]	1565 [4-7]	1566 [4-8]	1694 [3-5]	1695 [3-6]	1696 [4-7]	1697 [4-8]	1702 [6-5]	1703 [6-6]	1402 [3-6]
SiO2	52.29	52.78	48.43	48.48	48.52	47.96	49.50	48.01	48.18	48.66	53.01	53.36	52.90	52.45	52.56	52.90	49.06
Al2O3	29.76	30.21	32.75	32.57	32.45	32.46	31.61	32.54	32.06	33.70	30.24	30.77	29.69	29.63	30.18	30.61	32.60
FeO(t)	0.30	0.29	0.27	0.27	0.34	0.32	0.58	0.33	0.36	0.31	0.22	0.35	0.19	0.23	0.15	0.27	0.23
CaO	11.82	12.23	14.97	14.95	15.19	15.03	14.50	15.29	15.38	16.19	12.07	11.96	11.61	11.49	12.23	11.94	14.98
Na2O	4.59	4.70	2.53	2.66	2.89	2.70	2.59	2.65	2.87	2.39	4.53	4.39	4.40	4.66	4.55	4.48	3.16
K2O	0.16	0.13	0.05	0.06	0.07	0.05	0.05	0.02	0.04	0.03	0.11	0.13	0.14	0.11	0.13	0.10	0.05
total	98.91	100.35	99.00	98.99	99.46	98.53	98.82	98.84	98.89	101.28	100.19	100.96	98.93	98.57	99.79	100.30	100.08
Atoms per formula unit																	
Si	9.57	9.54	8.93	8.94	8.93	8.90	9.12	8.88	8.92	8.80	9.58	9.56	9.66	9.62	9.54	9.54	8.96
Al	6.42	6.43	7.11	7.08	7.04	7.10	6.86	7.10	7.00	7.18	6.44	6.49	6.39	6.40	6.46	6.51	7.02
Fe3+	0.05	0.04	0.04	0.04	0.05	0.05	0.09	0.05	0.06	0.05	0.03	0.05	0.03	0.04	0.02	0.04	0.03
Ca	2.32	2.37	2.96	2.95	2.99	2.99	2.86	3.03	3.05	3.14	2.34	2.29	2.27	2.26	2.38	2.31	2.93
Na	1.63	1.65	0.91	0.95	1.03	0.97	0.92	0.95	1.03	0.84	1.59	1.52	1.56	1.66	1.60	1.57	1.12
K	0.04	0.03	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.02	0.01
total	20.03	20.06	19.95	19.98	20.05	20.02	19.87	20.02	20.07	20.01	20.00	19.95	19.93	20.00	20.03	19.98	20.08
Or(%)	0.93	0.75	0.28	0.34	0.38	0.28	0.29	0.11	0.21	0.20	0.65	0.79	0.82	0.67	0.74	0.57	0.29
Ab (%)	40.88	40.69	23.37	24.30	25.51	24.50	24.33	23.86	25.22	21.02	40.22	39.61	40.33	42.05	39.94	40.21	27.55
An (%)	58	59	76	75	74	75	75	76	75	79	59	60	59	57	59	59	72

PROFILE	3	0	0	0	0	0	1	1	1	1	2	2	2	2	1	1	1
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp
UNIT	Px Gb II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Px Gb III	Px Gb III	Px Gb III
CLASIF DESCRIP	Pl (B)	Trcot Pl microl (C)	Trcot Pl (C)	Trcot Pl (B)	Trcot Pl (C)	Trcot Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)
SAMPLE	CNT-6A	MB-16	MB-16	MB-16	MB-16	MB-16	CNT-13	CNT-13	CNT-13	CNT-13	CNT-31	CNT-31	CNT-31	CNT-31	CNT-33	CNT-33	CNT-33
Label	1599 [3-4]	2266 [2-3]	2267 [2-4]	2268 [2-5]	2277 [4-7]	2278 [4-8]	2065 [4-3]	2066 [4-4]	2070 [5-4]	2071 [5-5]	2022 [3-2]	2023 [3-3]	2032 [2-2]	2033 [2-3]	2073 [1-2]	2074 [1-3]	2080 [2-4]
SiO2	50.81	47.25	48.38	47.96	47.97	47.97	52.47	50.26	51.97	50.96	52.76	51.88	52.78	52.77	50.62	49.85	50.38
Al2O3	31.74	34.64	33.82	33.90	33.89	33.88	31.63	33.14	31.89	31.77	30.65	30.76	30.96	30.87	32.91	32.99	31.94
FeO(t)	0.30	0.24	0.30	0.32	0.31	0.26	0.15	0.18	0.20	0.97	0.19	0.17	0.20	0.22	0.24	1.35	0.23
CaO	14.19	16.19	15.19	15.57	15.33	15.43	12.19	13.64	12.65	12.72	11.82	12.10	12.03	12.10	13.68	13.59	14.38
Na2O	3.20	1.91	2.38	2.32	2.39	2.38	4.25	3.38	3.93	3.76	4.39	4.35	4.52	4.39	3.51	3.26	3.28
K2O	0.07	0.01	0.06	0.05	0.06	0.04	0.11	0.06	0.14	0.09	0.12	0.12	0.14	0.13	0.11	0.07	0.07
total	100.31	100.24	100.14	100.11	99.95	99.95	100.80	100.67	100.78	100.27	99.94	99.39	100.62	100.48	101.07	101.11	100.29
Atoms per formula unit																	
Si	9.21	8.63	8.82	8.76	8.77	8.77	9.42	9.07	9.34	9.23	9.54	9.45	9.49	9.50	9.11	8.99	9.15
Al	6.78	7.45	7.27	7.30	7.30	7.30	6.69	7.05	6.76	6.78	6.53	6.61	6.56	6.55	6.98	7.01	6.84
Fe3+	0.04	0.04	0.05	0.05	0.05	0.04	0.02	0.03	0.03	0.15	0.03	0.03	0.03	0.03	0.04	0.20	0.04
Ca	2.76	3.17	2.97	3.05	3.00	3.02	2.34	2.64	2.44	2.47	2.29	2.36	2.32	2.34	2.64	2.63	2.80
Na	1.13	0.68	0.84	0.82	0.85	0.84	1.48	1.18	1.37	1.32	1.54	1.54	1.57	1.53	1.23	1.14	1.16
K	0.02	0.00	0.01	0.01	0.02	0.01	0.02	0.01	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.02
total	19.94	19.97	19.95	19.98	19.98	19.98	19.98	19.99	19.97	19.97	19.96	20.01	20.01	19.99	20.01	19.98	20.00
Or(%)	0.39	0.06	0.37	0.28	0.39	0.21	0.64	0.35	0.84	0.56	0.70	0.70	0.82	0.76	0.66	0.44	0.43
Ab (%)	28.88	17.59	22.04	21.17	21.89	21.74	38.44	30.88	35.69	34.63	39.92	39.12	40.12	39.32	31.52	30.11	29.09
An (%)	70.73	82.34	77.59	78.55	77.72	78.04	60.92	68.77	63.47	64.81	59.38	60.17	59.07	59.92	67.82	69.45	70.47

Table C.4- EPMA results for plagioclase (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int
UNIT	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II-Cum	Ol Leucog II Hyb-Gb	Ol Leucog II Hyb-Gb	Ol Leucog II Hyb-Anort	Ol Leucog II Hyb-Anort	Ol Leucog II Hyb-Gb	Ol Leucog II Hyb-Gb	Px Porph Gb
CLASIF DESCRIP	Pl (B)	Pl (C)	Pl bleb(C)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (C)
SAMPLE	CNT-17-1	CNT-17-1	CNT-17-1	CNT-17-1	CNT-17-1	CNT-15A	CNT-15A	CNT-15A	CNT-15A	CNT-15A	CNT-15-1	CNT-15-1	CNT-15-1	CNT-15-1	CNT-15-1	CNT-15-1	CNT-20
Label	1403 [3-7]	1412 [5-1]	1414 [5-3]	1409 [4-6]	1410 [4-7]	1355 [1-5]	1356 [1-6]	1357 [1-7]	1361 [2-4]	1362 [2-5]	1953 [1-2]	1954 [1-3]	1955 [2-1]	1956 [2-2]	1959 [4-3]	1960 [4-4]	1732 [3-10]
SiO2	46.44	49.18	48.83	47.74	48.11	45.16	48.59	45.80	48.03	48.08	52.13	52.09	51.98	51.72	51.55	51.50	49.54
Al2O3	34.71	32.47	33.03	33.32	33.26	35.36	32.96	34.54	33.05	33.73	32.01	32.38	31.61	32.12	32.16	31.84	32.28
FeO(t)	0.28	0.30	0.24	0.29	0.33	0.21	0.36	0.38	0.32	0.20	0.21	0.18	0.21	0.24	0.15	0.18	0.18
CaO	17.27	15.45	15.55	15.75	15.88	17.85	15.19	17.00	15.54	16.26	12.97	13.06	12.55	12.72	13.20	13.17	14.81
Na2O	1.87	3.02	2.91	2.60	2.66	1.37	2.84	1.70	2.66	2.58	3.81	3.84	4.06	3.92	3.93	3.80	3.25
K2O	0.00	0.11	0.11	0.03	0.05	0.00	0.05	0.01	0.10	0.05	0.08	0.07	0.02	0.05	0.08	0.10	0.03
total	100.58	100.53	100.66	99.72	100.29	99.95	99.98	99.42	99.69	100.90	101.20	101.62	100.43	100.78	101.06	100.59	100.09
Atoms per formula unit																	
Si	8.50	8.96	8.88	8.77	8.79	8.33	8.89	8.47	8.82	8.74	9.33	9.29	9.37	9.30	9.26	9.29	9.04
Al	7.48	6.97	7.08	7.22	7.17	7.68	7.10	7.53	7.16	7.23	6.75	6.81	6.72	6.81	6.81	6.77	6.94
Fe3+	0.04	0.05	0.04	0.05	0.05	0.03	0.05	0.06	0.05	0.03	0.03	0.03	0.03	0.04	0.02	0.03	0.03
Ca	3.39	3.02	3.03	3.10	3.11	3.53	2.98	3.37	3.06	3.17	2.49	2.50	2.42	2.45	2.54	2.55	2.90
Na	0.66	1.07	1.03	0.92	0.94	0.49	1.01	0.61	0.95	0.91	1.32	1.33	1.42	1.37	1.37	1.33	1.15
K	0.00	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.02	0.01	0.02	0.02	0.00	0.01	0.02	0.02	0.01
total	20.07	20.08	20.08	20.06	20.07	20.06	20.04	20.04	20.06	20.09	19.94	19.96	19.97	19.97	20.02	19.99	20.06
Or(%)	0.01	0.64	0.61	0.17	0.26	0.00	0.29	0.04	0.56	0.30	0.47	0.43	0.11	0.28	0.46	0.60	0.17
Ab (%)	16.37	25.96	25.11	22.94	23.19	12.20	25.18	15.28	23.53	22.24	34.53	34.56	36.90	35.69	34.84	34.10	28.37
An (%)	84	73	74	77	77	88	75	85	76	77	65	65	63	64	65	65	71

PROFILE	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Px Gb III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF DESCRIP	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)
SAMPLE	CNT-33	CNT-33	CNT-36	CNT-36	CNT-36	CNT-36	CNT-36	CNT-34	CNT-34	CNT-34	CNT-34	CNT-34	CNT-34	CNT-34	CNT-35	CNT-35	CNT-35
Label	2088 [4-2]	2089 [4-3]	2192 [3-3]	2196 [5-3]	2197 [5-4]	2204 [4-5]	2203 [4-4]	2122 [1-3]	2123 [1-4]	2124 [1-5]	2125 [1-6]	2130 [2-5]	2131 [2-6]	2132 [2-7]	2168 [1-3]	2171 [1-6]	2172 [1-7]
SiO2	50.64	50.53	51.98	52.24	52.07	51.48	52.16	50.29	49.40	49.16	48.26	50.20	50.20	50.15	50.38	51.51	50.21
Al2O3	31.57	32.16	30.69	30.55	31.13	30.48	30.87	31.74	32.32	32.53	33.40	32.17	32.04	32.23	31.73	30.89	31.36
FeO(t)	0.23	0.35	0.24	0.19	0.28	0.20	0.15	0.24	0.18	0.23	0.28	0.20	0.21	0.21	0.26	0.18	0.29
CaO	14.04	14.24	12.97	12.87	13.17	12.52	12.57	14.43	14.58	14.76	15.66	14.48	14.23	14.41	13.78	13.23	13.72
Na2O	3.59	3.40	4.15	4.44	4.01	4.20	3.92	3.34	3.18	3.10	2.55	3.27	3.28	3.28	3.47	3.96	3.55
K2O	0.02	0.07	0.09	0.11	0.12	0.10	0.14	0.09	0.08	0.07	0.06	0.03	0.08	0.07	0.09	0.11	0.06
total	100.09	100.75	100.13	100.40	100.77	98.99	99.81	100.12	99.74	99.85	100.21	100.34	100.03	100.36	99.71	99.89	99.19
Atoms per formula unit																	
Si	9.21	9.14	9.42	9.45	9.38	9.43	9.46	9.16	9.04	8.99	8.81	9.12	9.14	9.11	9.19	9.37	9.21
Al	6.77	6.85	6.56	6.51	6.61	6.58	6.60	6.81	6.97	7.01	7.19	6.88	6.87	6.90	6.82	6.62	6.78
Fe3+	0.04	0.05	0.04	0.03	0.04	0.03	0.02	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03	0.04
Ca	2.74	2.76	2.52	2.50	2.54	2.46	2.44	2.81	2.86	2.89	3.06	2.82	2.78	2.80	2.69	2.58	2.70
Na	1.27	1.19	1.46	1.56	1.40	1.49	1.38	1.18	1.13	1.10	0.90	1.15	1.16	1.16	1.23	1.40	1.26
K	0.00	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.03	0.01
total	20.02	20.01	20.02	20.07	20.01	20.02	19.94	20.02	20.04	20.04	20.03	20.01	20.00	20.01	20.00	20.02	20.01
Or(%)	0.11	0.43	0.54	0.60	0.69	0.59	0.87	0.50	0.46	0.41	0.37	0.20	0.47	0.42	0.54	0.66	0.33
Ab (%)	31.59	30.04	36.49	38.22	35.30	37.53	35.76	29.35	28.16	27.40	22.70	28.94	29.28	29.06	31.12	34.93	31.80
An (%)	68.30	69.54	62.97	61.18	64.02	61.88	63.38	70.16	71.38	72.19	76.93	70.85	70.25	70.52	68.34	64.41	67.87

Table C.4- EPMA results for plagioclase (cont)

PROFILE	1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb
CLASIF																	
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl Cpx (C)	Pl microl Ol (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl micro ©	Pl micro (B)	Pl ©	Pl (B)	Pl ©	Pl (B)
SAMPLE	CNT-20	CNT-20	CNT-20	CNT-20	CNT-20	CNT-18	CNT-18	CNT-18	CNT-18	CNT-18	CNT-18	SB-14A	SB-14A	SB-14A	SB-14A	SB-6	SB-6
Label	1733 [3-11]	1736 [5-3]	1737 [5-4]	1741[6-4]	1742 [6-5]	1440 [1-5]	1441[1-6]	1442 [1-7]	1443 [1-8]	1452 [3-4]	1453 [3-5]	497 (1_3)	498 (1_4)	501(2_3)	502 (2_4)	508 (1_3)	509 (1_4)
SiO2	47.09	50.12	49.45	49.81	49.12	48.79	48.77	49.41	48.70	49.15	48.84	48.10	48.70	48.42	48.78	48.77	48.24
Al2O3	34.02	31.77	32.35	32.08	32.70	33.00	32.34	32.17	32.84	32.07	32.58	32.89	33.09	32.98	33.12	32.47	32.74
FeO(t)	0.47	0.26	0.24	0.26	0.30	0.21	0.27	0.30	0.25	0.25	0.15	0.27	0.29	0.25	0.30	0.30	0.28
CaO	16.74	14.48	14.72	14.78	15.68	15.84	15.14	14.98	15.59	15.10	15.56	15.33	15.41	15.29	15.36	14.98	14.63
Na2O	1.89	3.52	3.28	3.27	2.95	2.79	3.00	3.20	2.85	3.11	2.91	2.58	2.48	2.50	2.60	2.65	2.58
K2O	0.02	0.08	0.06	0.04	0.02	0.05	0.11	0.09	0.03	0.09	0.05	0.08	0.05	0.04	0.05	0.08	0.43
total	100.23	100.23	100.11	100.24	100.76	100.69	99.64	100.15	100.26	99.77	100.09	99.24	100.02	99.48	100.21	99.25	98.90
Atoms per formula unit																	
Si	8.63	9.13	9.02	9.07	8.93	8.88	8.96	9.02	8.89	9.01	8.93	8.86	8.90	8.89	8.89	8.97	8.91
Al	7.34	6.82	6.96	6.89	7.00	7.08	7.00	6.92	7.07	6.93	7.02	7.14	7.12	7.14	7.12	7.04	7.13
Fe3+	0.07	0.04	0.04	0.04	0.05	0.03	0.04	0.05	0.04	0.04	0.02	0.04	0.04	0.04	0.05	0.05	0.04
Ca	3.29	2.83	2.88	2.88	3.05	3.09	2.98	2.93	3.05	2.97	3.05	3.03	3.02	3.01	3.00	2.95	2.90
Na	0.67	1.24	1.16	1.15	1.04	0.99	1.07	1.13	1.01	1.10	1.03	0.92	0.88	0.89	0.92	0.94	0.92
K	0.00	0.02	0.02	0.01	0.01	0.01	0.03	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.02	0.10
total	20.00	20.07	20.07	20.05	20.07	20.07	20.07	20.07	20.06	20.07	20.07	20.01	19.97	19.97	19.99	19.97	20.01
Or(%)	0.10	0.43	0.37	0.24	0.13	0.30	0.62	0.52	0.16	0.50	0.29	0.47	0.29	0.24	0.29	0.49	2.60
Ab (%)	16.95	30.43	28.66	28.49	25.34	24.13	26.23	27.70	24.81	27.01	25.20	23.22	22.49	22.81	23.37	24.13	23.52
An (%)	83	69	71	71	75	76	73	72	75	72	75	76	77	77	76	75	74

PROFILE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	PxPorph Gb	PxPorph Gb	PxPorph Gb
CLASIF			Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition	Transition			
DESCRIP	Pl (C)	Pl (B)	Pl microl (C)	Pl microl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl microlite (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)
SAMPLE	CNT-35	CNT-35	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	CNT-4	MB-11	MB-11	MB-11
Label	2177 [5-3]	2178 [5-4]	2326 [1-5]	2327 [1-6]	2328 [1-7]	2329 [1-8]	2332 [2-3]	2333 [2-4]	2334 [2-5]	2349 [6-6]	2350 [6-7]	2351[6-8]	2356 [7-5]	2357 [7-6]	2426 [1-7]	2427 [1-8]	2438 [3-9]
SiO2	51.18	51.35	48.05	48.89	49.89	49.68	49.36	49.67	49.76	48.04	49.36	47.50	49.65	49.50	51.41	50.69	51.81
Al2O3	31.14	31.31	33.48	33.36	32.97	33.22	33.07	32.99	34.47	32.85	32.89	33.88	33.17	33.97	31.40	32.35	31.82
FeO(t)	0.16	0.17	0.21	0.29	0.23	0.22	0.27	0.20	0.27	0.33	0.27	0.27	0.26	0.22	0.22	0.26	0.20
CaO	13.72	13.61	15.04	14.81	14.37	14.43	14.52	14.36	14.46	14.60	14.46	15.56	14.68	15.10	13.08	13.95	13.33
Na2O	3.84	3.80	2.58	2.69	2.87	2.98	2.83	3.12	2.94	2.65	2.96	2.22	3.05	2.69	3.80	3.70	3.82
K2O	0.09	0.06	0.04	0.02	0.04	0.03	0.02	0.07	0.07	0.06	0.06	0.05	0.07	0.05	0.06	0.04	0.08
total	100.13	100.30	99.39	100.05	100.36	100.56	100.07	100.41	101.98	98.53	100.00	99.48	100.88	101.52	99.97	100.99	101.06
Atoms per formula unit																	
Si	9.30	9.31	8.83	8.91	9.04	9.00	8.98	9.01	8.89	8.90	8.99	8.73	8.98	8.89	9.33	9.14	9.31
Al	6.67	6.69	7.25	7.16	7.04	7.09	7.09	7.05	7.26	7.17	7.06	7.34	7.07	7.19	6.72	6.88	6.74
Fe3+	0.02	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.04	0.05	0.04	0.04	0.04	0.03	0.03	0.04	0.03
Ca	2.67	2.64	2.96	2.89	2.79	2.80	2.83	2.79	2.77	2.90	2.82	3.06	2.84	2.91	2.54	2.70	2.57
Na	1.35	1.33	0.92	0.95	1.01	1.05	1.00	1.10	1.02	0.95	1.05	0.79	1.07	0.94	1.34	1.29	1.33
K	0.02	0.01	0.01	0.00	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02
total	20.04	20.01	20.00	19.96	19.93	19.97	19.95	20.00	19.98	19.98	19.98	19.98	20.01	19.97	19.97	20.05	19.98
Or(%)	0.53	0.35	0.24	0.13	0.24	0.21	0.15	0.41	0.40	0.37	0.34	0.29	0.39	0.30	0.36	0.24	0.48
Ab (%)	33.46	33.42	23.64	24.73	26.46	27.17	26.03	28.12	26.81	24.61	26.96	20.50	27.24	24.29	34.35	32.33	33.96
An (%)	66.02	66.23	76.13	75.14	73.30	72.63	73.83	71.47	72.79	75.02	72.71	79.21	72.37	75.41	65.29	67.43	65.57

Table C.4- EPMA results for plagioclase (cont)

PROFILE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	PxPorph Gb	PxPorph Gb	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF									Anort	Anort	Anort	Anort	Anort	Troct	Troct	Troct- Ore	Troct- Ore
DESCRIP	Pl ©	Pl (B)	Pl (C)	Pl (B)	Pl microl Ol (C)	Pl (C)	Pl (B)	Pl (B)	Pl ©	Pl (B)	Pl recx core ©	Pl ©	Pl (B)	Pl (C)	Pl (B)	Pl ©	Pl (B)
SAMPLE	SB-6	SB-6	CNT-27	CNT-27	CNT-27	CNT-27	CNT-27	SB-13	SB-8	SB-8	SB-8	SB-8	SB-8	SB-17-E	SB-17-E	SB-17C	SB-17C
Label	510 (2_1)	511(2_2)	1800 [2-7]	1801[2-8]	1804 [3-3]	1807 [4-3]	1808 [4-4]	473 (2_4)	558 (2_3)	559 (2_4)	561(1_2)	562 (1_3)	563 (1_4)	2579 [3-6]	2580 [3-7]	582 (2_4)	583 (2_5)
SiO2	48.31	48.13	51.38	51.91	51.06	51.26	50.93	48.04	49.14	50.53	49.53	49.27	49.38	49.97	47.29	50.68	48.86
Al2O3	32.97	33.14	30.34	31.21	30.41	30.91	30.87	32.67	32.38	31.89	32.10	32.45	32.55	31.53	32.71	31.34	33.16
FeO(t)	0.23	0.22	0.23	0.28	0.31	0.20	0.23	0.27	0.31	0.35	0.25	0.22	0.30	0.18	0.19	0.29	0.21
CaO	15.34	15.36	12.80	13.36	12.92	13.04	13.07	15.01	14.58	14.48	14.28	14.74	14.79	14.12	15.83	13.51	15.42
Na2O	2.45	2.41	4.54	4.17	4.54	4.09	4.11	2.61	2.83	3.31	2.92	2.94	2.92	3.29	2.52	3.55	2.49
K2O	0.06	0.07	0.16	0.11	0.15	0.01	0.00	0.05	0.00	0.00	0.00	0.21	0.08	0.00	0.04	0.00	0.14	0.11
total	99.35	99.33	99.45	101.04	99.40	99.51	99.21	98.65	99.25	100.56	99.28	99.69	99.94	99.13	98.54	99.50	100.25
Atoms per formula unit																	
Si	8.88	8.85	9.40	9.34	9.36	9.35	9.33	8.89	9.02	9.16	9.09	9.02	9.01	9.18	8.79	9.26	8.90
Al	7.14	7.18	6.54	6.62	6.57	6.65	6.66	7.13	7.01	6.81	6.94	7.00	7.00	6.82	7.17	6.75	7.12
Fe3+	0.04	0.03	0.03	0.04	0.05	0.03	0.03	0.04	0.05	0.05	0.04	0.03	0.05	0.03	0.03	0.04	0.03
Ca	3.02	3.03	2.51	2.58	2.54	2.55	2.57	2.98	2.87	2.81	2.81	2.89	2.89	2.78	3.15	2.65	3.01
Na	0.87	0.86	1.61	1.45	1.61	1.45	1.46	0.94	1.01	1.16	1.04	1.04	1.03	1.17	0.91	1.26	0.88
K	0.01	0.02	0.04	0.03	0.03	0.00	0.00	0.01	0.00	0.00	0.05	0.02	0.00	0.01	0.00	0.03	0.02
total	19.97	19.97	20.14	20.07	20.16	20.03	20.05	19.99	19.95	19.99	19.97	20.00	19.98	19.99	20.06	19.99	19.97
Or(%)	0.34	0.40	0.90	0.64	0.83	0.07	0.00	0.33	0.00	0.00	1.26	0.47	0.00	0.22	0.03	0.83	0.63
Ab (%)	22.34	22.02	38.76	35.85	38.54	36.19	36.25	23.86	26.00	29.26	26.68	26.42	26.33	29.62	22.37	31.94	22.49
An (%)	77	78	60	64	61	64	64	76	74	71	72	73	74	70	78	67	77

PROFILE	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb	PxPorph Gb
CLASIF																	
DESCRIP	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl microl (C)	Pl (C)	Pl (B)	Pl microlite (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)
SAMPLE	MB-11	MB-13	MB-13	MB-13	MB-13	CNT-5A	CNT-5A	CNT-5A	CNT-5A	CNT-5B	CNT-5B	CNT-5B	CNT-3	CNT-3	CNT-3	CNT-3	CNT-3
Label	2439 [3-10]	2528 [2-8]	2529 [2-9]	2530 [2-10]	2531[2-11]	2377 [3-5]	2378 [3-6]	2386 [4-3]	2387 [4-4]	2507 [3-3]	2512 [3-8]	2513 [3-9]	2405 [1-5]	2413 [3-3]	2414 [3-4]	2418 [5-4]	2419 [5-5]
SiO2	51.16	52.82	52.62	52.11	51.66	49.22	48.27	49.30	48.96	48.90	49.05	48.59	50.81	51.98	51.61	52.40	52.15
Al2O3	32.18	30.23	30.18	30.60	31.05	33.13	33.90	33.18	32.92	32.88	32.59	32.83	31.26	30.91	30.55	31.06	31.37
FeO(t)	0.32	0.24	1.11	0.20	0.27	0.29	0.38	0.25	0.36	0.22	0.20	0.23	0.21	0.17	0.43	0.18	0.25
CaO	13.58	12.23	12.36	12.54	13.20	14.84	15.13	14.80	14.54	15.15	14.58	15.50	13.20	12.78	12.26	12.76	12.83
Na2O	3.61	4.27	4.25	4.14	3.85	2.81	2.59	2.83	2.72	2.74	3.01	2.55	3.89	4.08	4.11	4.27	4.16
K2O	0.10	0.11	0.08	0.08	0.07	0.05	0.01	0.04	0.05	0.02	0.04	0.02	0.07	0.12	0.10	0.11	0.12
total	100.95	99.91	100.59	99.66	100.11	100.33	100.28	100.41	99.55	99.91	99.48	99.71	99.44	100.04	99.05	100.79	100.89
Atoms per formula unit																	
Si	9.21	9.57	9.49	9.47	9.37	8.95	8.79	8.95	8.96	8.94	8.99	8.91	9.29	9.42	9.44	9.43	9.38
Al	6.83	6.45	6.42	6.55	6.64	7.10	7.28	7.10	7.10	7.08	7.04	7.09	6.73	6.60	6.59	6.59	6.65
Fe3+	0.05	0.04	0.17	0.03	0.04	0.04	0.06	0.04	0.06	0.03	0.03	0.04	0.03	0.03	0.07	0.03	0.04
Ca	2.62	2.37	2.39	2.44	2.56	2.89	2.95	2.88	2.85	2.97	2.86	3.04	2.59	2.48	2.40	2.46	2.47
Na	1.26	1.50	1.49	1.46	1.35	0.99	0.91	1.00	0.97	0.97	1.07	0.90	1.38	1.43	1.46	1.49	1.45
K	0.02	0.03	0.02	0.02	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.02	0.03	0.02	0.03	0.03
total	19.99	19.95	19.97	19.98	19.98	19.98	20.00	19.98	19.95	19.99	20.01	19.99	20.03	19.99	19.97	20.02	20.02
Or(%)	0.59	0.66	0.45	0.47	0.44	0.28	0.09	0.22	0.29	0.14	0.26	0.12	0.40	0.71	0.58	0.66	0.70
Ab (%)	32.32	38.44	38.20	37.23	34.42	25.44	23.60	25.63	25.22	24.62	27.12	22.89	34.63	36.34	37.55	37.44	36.74
An (%)	67.09	60.91	61.34	62.30	65.14	74.29	76.31	74.14	74.49	75.24	72.62	76.98	64.97	62.95	61.87	61.90	62.55

Table C.4- EPMA results for plagioclase (cont)

PROFILE	3	3	3	3	3	3	3	1	1	1	1	1	2	2	2	2	3	3	3	3	3
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Px Gb
CLASIF	Troct-	Troct-	Troct-	Anort	Anort	Anort	Anort														
DESCRIP	PI ©	PI (B)	PI ©	PI ©	PI (B)	PI ©	PI (B)	PI (C)	PI (C)	PI (B)	PI (C)	PI (B)	PI (C)	PI (B)	PI (C)	PI (B)	PI ©	PI (B)	PI ©	PI (B)	PI intc ©
SAMPLE	SB-17C	SB-17C	SB-17E3	SB-2A	SB-2A	SB-2A	SB-2A	CNT-22	CNT-22	CNT-22	CNT-22	CNT-22	CNT-28	CNT-28	CNT-28	CNT-28	SB-11	SB-11	SB-11	SB-11	SB-3
Label	590 (3_2)	591(3_3)	573 (3_1)	539 (1_4)	540 (1_5)	545 (4_1)	546 (4_2)	1831[1-9]	1832 [1-10]	1833 [1-11]	1840 [5-3]	1841[5-4]	1812 [1-1]	1813 [1-2]	1825 [4-6]	1826 [4-7]	424 (1_3)	425 (1_4)	431(4_5)	432 (4_6)	449 (1_1)
SiO2	51.05	49.18	50.90	50.35	50.80	50.24	50.20	50.15	52.61	51.13	52.06	52.67	51.16	48.98	50.85	50.73	52.49	51.42	52.88	51.88	52.10
Al2O3	31.49	33.09	30.90	31.30	31.90	31.61	31.50	30.90	29.82	30.43	29.70	30.46	30.03	31.89	30.33	30.47	30.44	31.12	30.84	31.36	30.38
FeO(t)	0.21	0.28	0.20	0.24	0.24	0.26	0.33	0.38	0.20	0.34	0.13	0.15	0.28	0.18	0.26	0.36	0.21	0.24	0.21	0.41	0.19
CaO	13.77	14.99	13.22	13.51	13.82	13.76	13.70	13.61	11.98	12.87	11.82	12.86	12.73	14.15	12.63	13.08	12.26	13.43	12.55	13.18	12.16
Na2O	3.41	2.71	3.60	3.45	3.28	3.29	3.48	4.15	4.88	4.34	4.95	4.70	4.44	3.49	4.37	4.40	4.17	3.66	4.33	3.82	4.20
K2O	0.00	0.00	0.00	0.13	0.00	0.00	0.14	0.12	0.20	0.15	0.18	0.16	0.16	0.10	0.11	0.04	0.11	0.12	0.32	0.05	0.13
total	**99.94**	**100.26**	**98.80**	**98.99**	**100.04**	**99.17**	**99.35**	**99.30**	**99.69**	**99.27**	**98.85**	**101.00**	**98.79**	**98.79**	**98.54**	**99.07**	**99.69**	**99.99**	**101.14**	**100.70**	**99.17**
Atoms per formula unit																					
Si	9.28	8.95	9.34	9.25	9.22	9.21	9.20	9.22	9.57	9.37	9.55	9.48	9.42	9.05	9.38	9.33	9.53	9.34	9.49	9.35	9.51
Al	6.74	7.09	6.68	6.78	6.83	6.83	6.80	6.69	6.39	6.57	6.42	6.46	6.52	6.95	6.59	6.60	6.51	6.66	6.52	6.66	6.53
Fe3+	0.03	0.04	0.03	0.04	0.04	0.04	0.05	0.06	0.03	0.05	0.02	0.02	0.04	0.03	0.04	0.06	0.03	0.04	0.03	0.06	0.03
Ca	2.68	2.92	2.60	2.66	2.69	2.70	2.69	2.68	2.34	2.53	2.32	2.48	2.51	2.80	2.50	2.58	2.38	2.61	2.41	2.54	2.38
Na	1.20	0.96	1.28	1.23	1.16	1.17	1.24	1.48	1.72	1.54	1.76	1.64	1.58	1.25	1.56	1.57	1.47	1.29	1.51	1.33	1.49
K	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.03	0.05	0.03	0.04	0.04	0.04	0.02	0.03	0.01	0.02	0.03	0.07	0.01	0.03
total	**19.94**	**19.96**	**19.94**	**19.98**	**19.93**	**19.95**	**20.01**	**20.16**	**20.10**	**20.10**	**20.13**	**20.12**	**20.11**	**20.10**	**20.10**	**20.14**	**19.95**	**19.97**	**20.03**	**19.96**	**19.97**
Or(%)	0.00	0.00	0.00	0.80	0.00	0.00	0.83	0.67	1.14	0.83	1.02	0.90	0.90	0.59	0.65	0.25	0.64	0.73	1.85	0.31	0.80
Ab (%)	30.96	24.67	33.01	31.38	30.07	30.21	31.23	35.30	41.94	37.60	42.69	39.44	38.33	30.65	38.26	37.76	37.88	32.77	37.75	34.29	38.15
An (%)	**69**	**75**	**67**	**68**	**70**	**70**	**68**	**64**	**57**	**62**	**56**	**60**	**61**	**69**	**61**	**62**	**61**	**67**	**60**	**65**	**61**

PROFILE	3	3	3	3
SERIES	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp
UNIT	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb
CLASIF				
DESCRIP	PI (C)	PI (B)	PI (C)	PI (B)
SAMPLE	CNT-23B	CNT-23B	CNT-23B	CNT-23B
Label	2435 [2-2]	2434 [2-4]	2501[4-5]	2502 [4-6]
SiO2	52.43	52.26	52.90	52.71
Al2O3	29.88	30.03	30.17	30.65
FeO(t)	0.23	0.22	0.15	0.23
CaO	11.91	12.31	12.36	12.50
Na2O	4.34	4.35	4.40	4.36
K2O	0.09	0.08	0.12	0.10
total	**98.88**	**99.25**	**100.10**	**100.55**
Atoms per formula unit				
Si	9.59	9.54	9.57	9.50
Al	6.44	6.46	6.43	6.51
Fe3+	0.04	0.03	0.02	0.03
Ca	2.33	2.41	2.39	2.41
Na	1.54	1.54	1.54	1.52
K	0.02	0.02	0.03	0.02
total	**19.95**	**20.00**	**19.99**	**20.00**
Or(%)	0.52	0.47	0.72	0.59
Ab (%)	39.52	38.84	38.90	38.48
An (%)	**59.95**	**60.69**	**60.38**	**60.93**

Table C.4- EPMA results for plagioclase anorthitic rims (showing reference values for each sample in grey).

PROFILE	-	-	-	-	-	-	3	3	3	3	3	3	3	-	-	-	-
SERIES	SB I	SB I	ODV III	ODV III	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	ODV III	ODV III	ODV III	ODV III
GROUP	-	-	Upp	Upp	Upp	Upp	Int	Int	Int	Int	Int	Int	Int	Upp	Upp	Upp	Upp
UNIT	Ol Leucog	Ol Leucog	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal
CLASIF	Ol Leucog	Ol Leucog	Ol Gbnor	Ol Gbnor	Px Porh Ol Gb	Px Porh Ol Gb	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore	Troct- Ore	Pegmatoid (diorite)-Gb relic	Pegmatoid (diorite)-Gb relic	Pegmatoid (diorite)-Gb relic	Pegmatoid (diorite)-Gb relic
DESCRIP	Pl near rim (C)	Pl rim near Ol ©	Pl (B)	Pl rim	Pl (B)	Pl_Rim	Pl ©	Pl (B)	Pl ©	Pl (B)	Pl rim_Ol ©	Pl rim_Ol ©	Pl rim_Ol ©	Pl Gr (C)	Pl reaction rim (C)	Pl reaction rim (C)	Pl reaction rim (C)
SAMPLE	RS-1A	RS-1A	CVD-12B	CVD-12B	CVD-6A1	CVD-6A1	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	CVD-5	CVD-5	CVD-5	CVD-5
Label	599 (2_3)	598 (2_2)	853 (3-6)	856 (2-4)	801[1-9]	796 [1-5]	582 (2_4)	583 (2_5)	590 (3_2)	591(3_3)	584 (2_6)	589 (3_1)	592 (3_4)	745 [1-1]	746 [1-2]	746A [1-2A]	747 [1-3]
SiO2	50.25	46.76	51.15	47.28	52.53	47.96	50.68	48.86	51.05	49.18	45.54	45.41	47.04	52.57	47.35	49.19	50.12
Al2O3	32.51	35.77	31.27	33.88	30.45	32.33	31.34	33.16	31.49	33.09	34.89	35.60	33.70	29.60	34.42	32.13	31.95
FeO(t)	0.14	0.42	0.22	0.36	0.37	0.35	0.29	0.21	0.21	0.28	0.36	0.19	0.52	0.43	0.53	0.18	0.26
CaO	14.51	17.22	13.93	16.68	12.81	15.71	13.51	15.42	13.77	14.99	17.31	17.67	16.38	11.91	16.52	14.61	14.56
Na2O	3.13	1.37	3.92	1.88	4.62	2.61	3.55	2.49	3.41	2.71	1.15	1.17	1.65	4.59	1.83	3.17	3.17
K2O	0.10	0.09	0.00	0.00	0.05	0.04	0.14	0.11	0.00	0.00	0.00	0.31	0.00	0.03	0.00	0.02	0.02
total	100.64	101.62	100.49	100.10	100.83	99.00	99.50	100.25	99.94	100.26	99.25	100.35	99.28	99.13	100.65	99.30	100.08
Atoms per formula unit																	
Si	9.10	8.45	9.27	8.66	9.47	8.88	9.26	8.90	9.28	8.95	8.43	8.34	8.68	9.60	8.62	9.04	9.13
Al	6.93	7.62	6.68	7.32	6.47	7.05	6.75	7.12	6.74	7.09	7.61	7.71	7.33	6.37	7.39	6.96	6.86
Fe3+	0.02	0.06	0.03	0.06	0.06	0.05	0.04	0.03	0.03	0.04	0.06	0.03	0.08	0.07	0.08	0.03	0.04
Ca	2.81	3.33	2.70	3.28	2.47	3.11	2.65	3.01	2.68	2.92	3.43	3.48	3.24	2.33	3.22	2.88	2.84
Na	1.10	0.48	1.38	0.67	1.62	0.94	1.26	0.88	1.20	0.96	0.41	0.42	0.59	1.63	0.65	1.13	1.12
K	0.02	0.02	0.00	0.00	0.01	0.01	0.03	0.02	0.00	0.00	0.00	0.07	0.00	0.01	0.00	0.00	0.01
total	19.99	19.96	20.06	19.98	20.09	20.04	19.99	19.97	19.94	19.96	19.94	20.04	19.91	20.00	19.96	20.04	19.99
Or	1	1	0	0	0.27	0	0.83	0.63	0.00	0.00	0.00	2	0	0.18	0.00	0.12	0.14
Ab	28	12	34	17	39.40	23	31.94	22.49	30.96	24.67	10.72	10	15	41.04	16.71	28.16	28.22
An	72	87	66	83	60	77	67	77	69	75	89	88	85	58.77	83.29	71.72	71.64

Table C.5- EPMA results for amphibole.

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLASIF	Troct	Troct	Troct	Ol Gb	Ol Gb	Ol Gb	Troct	Troct	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Hbl Br O_Oxd ©	Hbl Br O_Cpx ©	Hbl B_O_Opx (C)	Hbl Br O-Cpx (C)	Hbl Br O-Cpx (B)	Hbl Br O-Ol (C)	Hbl Br intc (C)	Hbl Br intc (B)	Hbl B_O_Opx (C)	Hbl B_O Cpx (C)	Hbl Br (C)	Hbl Br (C)	Hbl Br O_Ol-Opx ©	Hbl Br O_Ol-Opx (B)	Hbl Br O_Cpx (C)	Hbl Br O_Cpx (B)
SAMPLE	RS-6	RS-6	RS-7	RS-9	RS-9	RS-9	RS-10	RS-10	RS-16	RS-16	RS-17	RS-18	RS-2	RS-2	RS-1B	RS-1B
Label	236 (2_3)	241(4_3)	1170 [1-5]	263 (6_3)	264 (6_4)	267 (7_3)	186 (5_3)	187 (5_4)	1085 [6-4]	1088 [7-3]	1113 [4-9]	1160A [4-9]	228 (2_6)	229 (2_7)	201(1_5)	202 (1_6)
SiO2	44.20	44.82	44.86	44.16	44.84	45.13	44.72	44.59	42.73	44.03	43.25	43.96	43.49	43.44	43.52	43.72
TiO2	0.86	0.91	1.14	3.10	3.07	1.21	1.32	1.32	1.12	2.10	2.52	2.29	1.74	1.21	2.35	2.15
Al2O3	11.83	11.20	11.92	11.08	10.79	12.36	11.58	12.15	13.16	10.72	11.79	11.84	12.10	12.31	12.14	12.48
Cr2O3	1.49	0.50	0.67	0.43	0.50	0.43	0.09	0.08	0.05	0.06	0.66	0.18	0.44	0.46	0.14	0.18
MgO	17.85	17.99	17.31	16.36	16.56	17.70	16.08	16.02	15.06	14.35	14.85	15.76	15.64	15.76	14.96	14.83
CaO	11.78	11.70	11.62	11.66	11.70	11.84	11.62	11.70	11.03	11.34	11.72	11.27	11.62	11.66	11.39	11.77
MnO	0.05	0.06	0.04	0.07	0.04	0.12	0.07	0.10	0.11	0.11	0.13	0.12	0.13	0.10	0.14	0.14
FeO	4.77	5.26	5.98	6.59	6.44	6.32	7.70	7.78	9.21	10.68	8.64	8.56	7.58	7.46	9.32	9.10
Na2O	2.38	2.31	2.38	2.52	2.52	2.61	2.11	2.20	2.66	2.30	2.33	2.63	2.22	2.16	2.37	2.26
K2O	0.63	0.62	0.47	0.46	0.43	0.52	0.53	0.55	0.59	0.56	0.47	0.29	0.58	0.55	0.44	0.42
Total	**95.83**	**95.35**	**96.38**	**96.43**	**96.87**	**98.23**	**95.82**	**96.49**	**95.72**	**96.25**	**96.35**	**96.90**	**95.55**	**95.13**	**96.78**	**97.04**
T																
Si	6.38	6.49	6.44	6.40	6.46	6.37	6.50	6.45	6.27	6.48	6.34	6.35	6.37	6.38	6.33	6.34
Al IV	1.62	1.51	1.56	1.60	1.54	1.63	1.50	1.55	1.73	1.52	1.66	1.65	1.63	1.62	1.67	1.66
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																
Al VI	0.39	0.40	0.46	0.30	0.29	0.43	0.49	0.52	0.54	0.35	0.37	0.37	0.46	0.51	0.41	0.48
Ti	0.09	0.10	0.12	0.34	0.33	0.13	0.14	0.14	0.12	0.23	0.28	0.25	0.19	0.13	0.26	0.23
Fe3+	0.28	0.29	0.29	0.10	0.08	0.32	0.25	0.25	0.38	0.23	0.15	0.30	0.22	0.26	0.27	0.21
Cr	0.17	0.06	0.08	0.05	0.06	0.05	0.01	0.01	0.01	0.01	0.08	0.02	0.05	0.05	0.02	0.02
Mg	3.84	3.88	3.70	3.54	3.56	3.73	3.49	3.45	3.29	3.15	3.24	3.40	3.42	3.45	3.24	3.21
Fe2+	0.22	0.27	0.35	0.68	0.68	0.35	0.62	0.62	0.65	1.04	0.89	0.66	0.66	0.60	0.80	0.86
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.07	0.08	0.08	0.02	0.02	0.08	0.06	0.06	0.10	0.05	0.03	0.07	0.05	0.06	0.06	0.04
Mn	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.02
Ca	1.82	1.82	1.79	1.81	1.81	1.79	1.81	1.81	1.73	1.79	1.84	1.75	1.82	1.83	1.77	1.83
Na	0.10	0.10	0.13	0.16	0.17	0.12	0.12	0.11	0.16	0.15	0.12	0.17	0.11	0.09	0.15	0.11
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																
Na	0.57	0.55	0.53	0.55	0.53	0.60	0.48	0.50	0.60	0.51	0.54	0.57	0.52	0.52	0.52	0.52
K	0.12	0.12	0.09	0.08	0.08	0.09	0.10	0.10	0.11	0.11	0.09	0.05	0.11	0.10	0.08	0.08
TOTAL A	**0.69**	**0.66**	**0.62**	**0.63**	**0.61**	**0.69**	**0.58**	**0.60**	**0.71**	**0.62**	**0.63**	**0.62**	**0.63**	**0.63**	**0.60**	**0.60**
Vacancies	*0.31*	*0.34*	*0.38*	*0.37*	*0.39*	*0.31*	*0.42*	*0.40*	*0.29*	*0.38*	*0.37*	*0.38*	*0.37*	*0.37*	*0.40*	*0.40*
#Mg=Mg/(F	0.870	0.859	0.838	0.816	0.821	0.833	0.788	0.786	0.745	0.706	0.754	0.766	0.786	0.790	0.741	0.744

Table C.5- EPMA results for amphibole (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	SB I	SB I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
GROUP	-	-	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	-	-	Cum	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Gb_Opx	Troct	Troct	Leucog ss	Leucog ss	Opx Leucog	Ol Leucog	Ol Leucog_Opx	Ol Leucog_Opx	Ol Leucog	Leucog ss	Leucog ss	Ol Leucog	Ol Leucog
DESCRIP	Hbl Br after Opx?	Hbl Br O_Pl ©	Hbl Br intc ©	Hbl Br_O_Oxd (C)	Hbl Br_O_Oxd (C)	Hbl Br_O_Oxd ©	Hbl Br_O_Oxd ©	Hbl Br O_Oxd ©	Hbl Br_O_Oxd ©	Hbl Br_O_Oxd ©	Hbl Br_O_Cpx ©	Hbl Br_O_Oxd ©	Hbl B_O_Oxd (C)	Hbl B_O_Oxd (B)	Hbl Br_O_Cpx (C)	Hbl B_O_Oxd (C)
SAMPLE	RS-1B	RS-3	ODV-G-36	ODV-G-3	ODV-G-3	S-4-2	S-4-2	ODV-G-34	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-23	ODV-G-23	ODV-G-22	ODV-G-22
Label	604 (2_11)	254 (1_6)	319A (4_5A)	M207 (4_1)	M210 (4_4)	M404 (7_1)	M405 (7_2)	336 (4_5)	M570 (3_3)	M443 (3_2)	M448 (5_4)	M453 (1_5)	1222 [4-5]	1223 [4-6]	M579 (2_1)	1230 [3-1]
SiO2	44.68	43.15	42.09	41.69	42.57	42.08	41.44	42.14	41.82	44.01	41.27	41.81	41.77	41.91	41.93	43.15
TiO2	0.30	2.44	3.28	3.33	2.43	2.89	3.10	3.40	3.14	2.67	2.98	2.57	3.53	3.20	2.35	2.59
Al2O3	10.71	11.80	11.13	11.32	11.88	11.81	11.45	11.44	11.37	10.36	12.53	11.48	10.96	11.27	11.94	10.94
Cr2O3	0.01	0.08	0.00	0.02	0.03	0.02	0.05	0.03	0.04	0.00	0.03	0.00	0.03	0.00	0.00	0.01
MgO	16.77	14.44	11.87	12.11	13.77	12.51	12.39	11.74	13.88	15.17	13.46	12.63	10.68	9.92	12.11	12.39
CaO	11.85	11.54	10.82	10.69	11.14	11.48	11.62	10.93	12.11	11.69	11.74	11.61	10.62	10.71	11.17	10.89
MnO	0.10	0.08	0.16	0.16	0.18	0.20	0.15	0.16	0.07	0.16	0.17	0.20	0.18	0.18	0.15	0.18
FeO	8.98	10.62	14.37	12.59	10.88	12.41	12.73	14.25	10.74	9.79	11.01	12.76	16.19	17.28	14.28	14.49
Na2O	1.97	2.36	2.59	2.44	2.36	2.04	2.16	2.49	2.24	2.16	2.08	2.19	2.51	2.27	2.22	2.37
K2O	0.41	0.85	0.70	0.72	0.69	0.80	0.75	0.75	1.09	0.68	0.97	0.87	0.69	0.91	0.78	0.66
Total	**95.77**	**97.36**	**97.02**	**95.07**	**95.93**	**96.25**	**95.83**	**97.32**	**96.50**	**96.71**	**96.24**	**96.11**	**97.16**	**97.66**	**96.93**	**97.65**
T																
Si	6.48	6.30	6.29	6.31	6.31	6.29	6.25	6.27	6.23	6.44	6.14	6.28	6.28	6.30	6.25	6.37
Al IV	1.52	1.70	1.71	1.69	1.69	1.71	1.75	1.73	1.77	1.56	1.86	1.72	1.72	1.70	1.75	1.63
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																
Al VI	0.31	0.34	0.25	0.33	0.39	0.36	0.28	0.28	0.23	0.23	0.34	0.31	0.22	0.29	0.34	0.27
Ti	0.03	0.27	0.37	0.38	0.27	0.32	0.35	0.38	0.35	0.29	0.33	0.29	0.40	0.36	0.26	0.29
Fe3+	0.68	0.24	0.25	0.18	0.26	0.18	0.15	0.22	0.07	0.21	0.20	0.19	0.26	0.25	0.33	0.34
Cr	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	3.63	3.15	2.64	2.73	3.04	2.78	2.78	2.61	3.08	3.31	2.99	2.83	2.39	2.22	2.69	2.73
Fe2+	0.35	1.00	1.50	1.38	1.03	1.35	1.43	1.52	1.26	0.95	1.13	1.39	1.72	1.87	1.37	1.37
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	5.00	5.00	5.00	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.06	0.06	0.05	0.03	0.05	0.03	0.02	0.04	0.01	0.04	0.04	0.03	0.05	0.05	0.08	0.08
Mn	0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.02
Ca	1.84	1.81	1.73	1.73	1.77	1.84	1.88	1.74	1.93	1.83	1.87	1.87	1.71	1.72	1.78	1.72
Na	0.08	0.13	0.20	0.21	0.16	0.11	0.08	0.20	0.05	0.11	0.07	0.08	0.21	0.20	0.12	0.18
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																
Na	0.47	0.54	0.55	0.50	0.52	0.48	0.55	0.52	0.60	0.51	0.53	0.56	0.52	0.46	0.52	0.50
K	0.08	0.16	0.13	0.14	0.13	0.15	0.14	0.14	0.21	0.13	0.18	0.17	0.13	0.18	0.15	0.12
TOTAL A	**0.55**	**0.70**	**0.69**	**0.64**	**0.65**	**0.63**	**0.69**	**0.66**	**0.81**	**0.63**	**0.71**	**0.72**	**0.65**	**0.63**	**0.67**	**0.62**
Vacancies	*0.45*	*0.30*	*0.31*	*0.36*	*0.35*	*0.37*	*0.31*	*0.34*	*0.19*	*0.37*	*0.29*	*0.28*	*0.35*	*0.37*	*0.33*	*0.38*
#Mg=Mg/(F	0.769	0.708	0.595	0.632	0.693	0.642	0.634	0.595	0.697	0.734	0.685	0.638	0.540	0.506	0.602	0.604

Table C.5- EPMA results for amphibole (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	I	I	I	I	II	II	II	II	II	II	II	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Int	Int	Int	Upp								Low	Low	Low	Low	Low
UNIT	Leucog	Leucog	Leucog	Ol Leucog	Ol Leucog I	Ol Gb	Ol Gb	Ol Gb	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog I	Px Gb I	Px Gb I	Px Gb I	Px Gb I
CLASIF	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Opx Leucog	Ol Gb	Ol Gb_Opx	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog					
DESCRIP	Hbl Br_O_Oxd ©	Hbl Br intc (B)	Hbl Br intc ©	Hbl Br O_oxd ©	Hbl Br O_Oxd ©	Hbl Br_O_Oxd ©	Hbl Br intc ©	Hbl Br_O_Oxd ©	Hbl Br ©	Hbl Br (B)	Hbl Br O_Oxd ©	Hbl Br (C)	Hbl Br intc (C)	Hbl Br_O_Cpx (C)	Hbl Br_O_Oxd (C)	Hbl Br_O_Oxd (B)
SAMPLE	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-35	ODV-G-41	ODV-G-28	ODV-G-32	ODV-G-33	ODV-G-40	ODV-G-40	ODV-G-40	CVD-19A	CVD-17	CVD-17	CVD-17	CVD-17
Label	M 502 (2_1)	M 513 (6_1)	M 514 (6_2)	350 (4_1)	406 (3_1)	M 494 (3_5)	M 651(4_1)	M 633 (1_3)	383 (1_9)	384 (1_10)	399 (3_9)	1061[3-5]	957 [2-7]	960 [3-1]	961[4-1]	962 [4-2]
SiO2	41.60	42.65	41.67	41.24	40.91	40.76	41.82	42.27	42.38	41.87	42.08	42.64	42.07	42.88	43.24	42.38
TiO2	2.65	2.84	3.69	3.58	3.17	3.21	2.77	2.41	3.25	3.27	3.29	2.78	2.75	2.81	3.49	3.14
Al2O3	11.37	10.35	10.63	11.67	12.60	12.02	10.87	11.87	11.51	11.49	11.43	11.28	11.26	11.52	11.30	12.23
Cr2O3	0.04	0.00	0.00	0.03	0.00	0.09	0.03	0.03	0.06	0.06	0.09	0.07	0.02	0.00	0.02	0.02
MgO	12.31	11.63	11.15	11.97	13.84	13.43	13.76	13.87	13.32	13.16	14.22	13.18	13.35	13.50	14.50	13.59
CaO	10.70	11.20	11.02	10.90	11.59	11.70	11.63	11.57	11.18	11.46	11.53	11.26	11.16	11.14	11.36	11.64
MnO	0.17	0.14	0.19	0.16	0.08	0.12	0.12	0.11	0.09	0.08	0.10	0.12	0.10	0.12	0.09	0.09
FeO	13.71	15.20	15.02	13.49	9.93	11.19	10.09	10.70	11.16	11.18	10.26	12.52	11.42	11.84	10.05	10.64
Na2O	2.10	2.28	2.55	2.57	2.32	2.45	2.30	2.38	2.44	2.42	2.35	2.19	2.31	2.43	2.61	2.34
K2O	0.78	0.80	0.58	0.73	0.93	0.76	0.63	0.89	0.73	0.76	0.62	0.88	0.81	0.00	0.75	0.92
Total	**95.43**	**97.08**	**96.50**	**96.34**	**95.37**	**95.74**	**94.03**	**96.08**	**96.11**	**95.77**	**95.99**	**96.91**	**95.26**	**96.25**	**97.39**	**96.99**
T																
Si	6.27	6.39	6.30	6.19	6.12	6.12	6.35	6.28	6.30	6.27	6.24	6.31	6.32	6.33	6.31	6.25
Al IV	1.73	1.61	1.70	1.81	1.88	1.88	1.65	1.72	1.70	1.73	1.76	1.69	1.68	1.67	1.69	1.75
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																
Al VI	0.29	0.22	0.19	0.26	0.35	0.25	0.29	0.36	0.32	0.30	0.24	0.28	0.31	0.33	0.26	0.37
Ti	0.30	0.32	0.42	0.40	0.36	0.36	0.32	0.27	0.36	0.37	0.37	0.31	0.31	0.31	0.38	0.35
Fe3+	0.39	0.21	0.16	0.22	0.16	0.17	0.09	0.17	0.15	0.10	0.19	0.26	0.21	0.32	0.14	0.11
Cr	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Mg	2.77	2.60	2.51	2.68	3.09	3.01	3.11	3.07	2.95	2.94	3.15	2.91	2.99	2.97	3.16	2.99
Fe2+	1.25	1.65	1.72	1.44	1.05	1.20	1.18	1.12	1.21	1.29	1.04	1.23	1.18	1.07	1.05	1.19
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.09	0.04	0.02	0.04	0.03	0.03	0.01	0.04	0.03	0.02	0.04	0.06	0.05	0.07	0.03	0.02
Mn	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01
Ca	1.73	1.80	1.78	1.75	1.86	1.88	1.89	1.84	1.78	1.84	1.83	1.79	1.79	1.76	1.78	1.84
Na	0.16	0.14	0.17	0.18	0.10	0.07	0.08	0.11	0.17	0.13	0.11	0.14	0.15	0.15	0.18	0.13
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																
Na	0.45	0.52	0.58	0.56	0.58	0.65	0.59	0.58	0.53	0.57	0.57	0.49	0.53	0.55	0.56	0.54
K	0.15	0.15	0.11	0.14	0.18	0.15	0.12	0.17	0.14	0.14	0.12	0.17	0.15	0.00	0.14	0.17
TOTAL A	**0.60**	**0.68**	**0.69**	**0.70**	**0.75**	**0.79**	**0.72**	**0.75**	**0.67**	**0.72**	**0.68**	**0.66**	**0.68**	**0.55**	**0.70**	**0.71**
Vacancies	*0.40*	*0.32*	*0.31*	*0.30*	*0.25*	*0.21*	*0.28*	*0.25*	*0.33*	*0.28*	*0.32*	*0.34*	*0.32*	*0.45*	*0.30*	*0.29*
#Mg=Mg/(F	0.615	0.577	0.570	0.613	0.713	0.681	0.708	0.698	0.680	0.677	0.712	0.652	0.676	0.670	0.720	0.695

Table C.5- EPMA results for amphibole (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	3
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	III	ODV III	ODV III	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Low	Low	Low	Low	Low
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb	Px Gb	Px Gb	Px Gb	Px Gb
CLASIF	Ol Gbnor	Ol Gbnor	Ol Gbnor	Type II Ore	Type II Ore	Type II Ore	Gb		Px Porh Ol Gb			Hb Gb	Hb Gb	Hb Gb	Hb Gb	
DESCRIP	Hbl Br_O_Cpx (C)	Hbl Br O_Opx Cum	Hb intc	Hbl Br (C)	Hbl Br (B)	Hbl Gr_O_Hbl Br (B)	Hbl Br_O_Cpx (C)	Hbl Br_O_Oxd (C)	Hbl Br_O_OL (C)	Hbl Br_O_Opx	Hb_O_Oxd (C)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Cpx (C)
SAMPLE	CVD-12B	CVD-12B	CVD-12B	CVD-9B	CVD-9B	CVD-9B	CV-31	CVD-8	CVD-6A1	CVD-4A	CVD-4A	PEROG 5	PEROG 5	PEROG 5	PEROG 5	CNT-25-2
Label	843 (1-5)	846 (2-1)	855 (2-3)	1064 [4-1]	1065 [4-2]	1066 [4-3]	M 518 (2_3)	806 (1-3)	794 [1-3]	834 (1-9)	842 (2-7)	1919 [2-6]	1920 [2-7]	1924 [4-1]	1925 [4-2]	1239 [2-3]
SiO2	43.32	42.94	45.05	42.65	42.67	42.52	42.62	42.69	43.85	42.23	42.26	43.07	42.31	43.00	43.71	42.22
TiO2	2.29	2.20	0.23	3.59	2.50	1.52	3.05	2.41	1.62	2.27	2.37	3.09	3.61	2.76	2.26	2.30
Al2O3	12.10	12.00	11.56	11.86	12.78	13.78	11.12	12.14	12.37	11.67	11.83	11.85	11.58	11.71	11.59	12.61
Cr2O3	0.04	0.04	0.04	0.10	0.01	0.12	0.22	0.00	0.06	0.13	0.22	0.29	0.27	0.14	0.16	0.15
MgO	14.93	14.98	16.30	14.74	14.83	14.99	13.16	14.77	15.91	14.59	14.51	14.22	13.58	13.95	14.92	15.06
CaO	11.56	11.58	11.98	10.92	10.60	10.59	11.65	11.89	12.06	11.47	11.68	11.40	11.21	11.27	11.58	11.56
MnO	0.09	0.08	0.04	0.14	0.18	0.17	0.12	0.10	0.05	0.10	0.13	0.09	0.11	0.16	0.07	0.12
FeO	10.69	10.43	9.41	10.52	10.75	9.94	11.83	9.53	9.39	10.42	9.83	9.88	10.13	10.09	9.85	9.25
Na2O	2.74	2.72	2.72	2.55	2.60	2.76	2.06	2.32	2.12	2.58	2.46	2.41	2.43	2.36	2.35	2.30
K2O	0.83	0.77	0.09	0.86	0.62	0.45	0.71	0.89	0.72	0.67	0.76	0.71	0.70	0.68	0.65	0.93
Total	**98.59**	**97.75**	**97.41**	**97.94**	**97.55**	**96.84**	**96.53**	**96.74**	**98.15**	**96.14**	**96.06**	**97.00**	**95.92**	**96.12**	**97.14**	**96.49**
T																
Si	6.25	6.25	6.47	6.19	6.17	6.16	6.33	6.27	6.28	6.25	6.26	6.30	6.29	6.35	6.37	6.19
Al IV	1.75	1.75	1.53	1.81	1.83	1.84	1.67	1.73	1.72	1.75	1.74	1.70	1.71	1.65	1.63	1.81
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																
Al VI	0.31	0.30	0.42	0.21	0.35	0.52	0.28	0.37	0.36	0.29	0.33	0.35	0.31	0.39	0.35	0.37
Ti	0.25	0.24	0.03	0.39	0.27	0.17	0.34	0.27	0.17	0.25	0.26	0.34	0.40	0.31	0.25	0.25
Fe3+	0.28	0.28	0.45	0.34	0.51	0.49	0.16	0.17	0.44	0.28	0.19	0.15	0.10	0.17	0.23	0.29
Cr	0.01	0.01	0.00	0.01	0.00	0.01	0.03	0.00	0.01	0.02	0.03	0.03	0.03	0.02	0.02	0.02
Mg	3.21	3.25	3.49	3.19	3.20	3.24	2.92	3.23	3.40	3.22	3.20	3.10	3.01	3.07	3.24	3.29
Fe2+	0.94	0.92	0.61	0.86	0.67	0.57	1.28	0.96	0.62	0.95	0.99	1.02	1.14	1.05	0.91	0.78
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.07	0.07	0.07	0.08	0.12	0.15	0.03	0.04	0.06	0.07	0.04	0.03	0.02	0.03	0.06	0.07
Mn	0.01	0.01	0.00	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01
Ca	1.79	1.80	1.84	1.70	1.64	1.64	1.86	1.87	1.85	1.82	1.85	1.79	1.78	1.78	1.81	1.82
Na	0.13	0.11	0.08	0.21	0.21	0.19	0.10	0.08	0.08	0.10	0.09	0.17	0.19	0.17	0.13	0.10
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																
Na	0.63	0.65	0.67	0.51	0.52	0.59	0.49	0.58	0.51	0.64	0.62	0.51	0.51	0.51	0.54	0.55
K	0.15	0.14	0.02	0.16	0.12	0.08	0.13	0.17	0.13	0.13	0.14	0.13	0.13	0.13	0.12	0.17
TOTAL A	**0.79**	**0.80**	**0.69**	**0.67**	**0.63**	**0.67**	**0.63**	**0.75**	**0.64**	**0.77**	**0.76**	**0.65**	**0.64**	**0.64**	**0.66**	**0.73**
Vacancies	*0.21*	*0.20*	*0.31*	*0.33*	*0.37*	*0.33*	*0.37*	*0.25*	*0.36*	*0.23*	*0.24*	*0.35*	*0.36*	*0.36*	*0.34*	*0.27*
#Mg=Mg/(F	0.713	0.719	0.755	0.714	0.711	0.729	0.665	0.734	0.751	0.714	0.725	0.720	0.705	0.711	0.730	0.744

Table C.5- EPMA results for amphibole (cont)

PROFILE	3	1	1	1	1	2	3	1	3	3	3	3	3	3	3	3
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI
GROUP	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Microgb	Ol Leucog I	Ol Leucog I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II-Cum	Px Porph Gb	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF		Anort	Anort							Anort	Troct	Troct	Troct- Ore	Troct- Ore	Troct- Ore	Anort
DESCRIP	Hbl Br (C)	Hbl Br_O_Cpx (C)	Hbl Br_O_Pl (C)	Hbl Br_O_Opx (C)	Hbl Br (C)	Hbl Br (C)	Hbl Br_O_Ol (C)	Hbl Br intc (C)	Hbl Br_O_Opx (C)	Hbl Br intc ©	Hbl Br_O_Opx_(C)	Hbl Br_O_Opx_(C)	Hbl Br O_Sulf ©	Hbl Br O_Sulf (B)	Hbl Br O_Sulf (C)	Hbl Br O_Cpx©
SAMPLE	CNT-24	SB-33	SB-33	CNT-26	CNT-19	SB-W3	CNT-17-1	CNT-18	CNT-27	SB-8	SB-17-E	SB-17-E	SB-17C	SB-17C	SB-17E3	SB-2A
Label	1459 [2-3]	1708[1-3]	1710[2-2]	1386 [5-4]	1567 [4-9]	1691[1-12]	1399 [3-3]	1451[3-3]	1797 [1-12]	560 (1_1)	2577 [3-4]	2578 [3-5]	587 (4_3)	588 (4_4)	577 (4_3)	543 (2_3)
SiO2	42.76	41.18	41.58	42.71	43.24	41.94	42.02	41.70	41.43	41.49	41.94	42.09	42.79	42.12	42.28	41.89
TiO2	3.52	2.29	2.59	2.01	1.87	3.26	1.97	2.58	2.71	3.14	2.11	2.07	0.45	1.23	0.31	2.57
Al2O3	11.88	12.48	12.78	12.54	12.30	12.11	12.57	12.48	12.72	11.63	11.87	12.05	12.59	13.18	12.34	11.89
Cr2O3	0.05	0.02	0.00	0.13	0.07	0.18	0.14	0.25	0.03	0.00	0.16	0.15	0.10	0.13	0.15	0.01
MgO	13.69	12.54	13.16	14.72	15.27	13.46	14.62	14.28	13.84	12.73	14.33	14.25	14.97	14.92	14.92	12.13
CaO	11.39	11.55	11.67	11.66	12.11	11.14	11.91	12.11	11.96	11.37	11.45	11.39	11.33	11.61	11.51	11.75
MnO	0.06	0.17	0.12	0.05	0.05	0.14	0.12	0.06	0.18	0.14	0.08	0.12	0.16	0.18	0.14	0.17
FeO	10.65	12.65	12.38	9.40	10.32	11.04	10.20	9.60	10.40	11.92	10.40	10.81	10.31	10.28	10.29	13.19
Na2O	2.49	2.06	2.15	2.11	2.39	2.62	2.27	2.38	2.39	2.32	2.12	2.17	2.16	2.26	2.06	1.61
K2O	0.84	1.34	1.21	0.81	0.66	0.60	0.94	1.03	0.99	1.11	0.63	0.70	0.39	0.44	0.62	0.55
Total	**97.34**	**96.27**	**97.64**	**96.14**	**98.28**	**96.49**	**96.75**	**96.47**	**96.66**	**95.85**	**95.08**	**95.80**	**95.26**	**96.36**	**94.61**	**95.77**
T																
Si	6.27	6.18	6.13	6.28	6.23	6.21	6.18	6.18	6.14	6.24	6.25	6.24	6.29	6.15	6.27	6.28
Al IV	1.73	1.82	1.87	1.72	1.77	1.79	1.82	1.82	1.86	1.76	1.75	1.76	1.71	1.85	1.73	1.72
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																
Al VI	0.33	0.39	0.35	0.45	0.32	0.32	0.35	0.36	0.36	0.31	0.34	0.34	0.47	0.41	0.43	0.38
Ti	0.39	0.26	0.29	0.22	0.20	0.36	0.22	0.29	0.30	0.35	0.24	0.23	0.05	0.13	0.03	0.29
Fe3+	0.11	0.22	0.27	0.25	0.39	0.21	0.33	0.09	0.14	0.12	0.37	0.39	0.67	0.63	0.68	0.31
Cr	0.01	0.00	0.00	0.02	0.01	0.02	0.02	0.03	0.00	0.00	0.02	0.02	0.01	0.02	0.02	0.00
Mg	2.99	2.81	2.89	3.22	3.28	2.97	3.20	3.15	3.06	2.86	3.18	3.15	3.28	3.25	3.30	2.71
Fe2+	1.17	1.33	1.20	0.84	0.80	1.12	0.88	1.09	1.14	1.36	0.85	0.87	0.52	0.56	0.53	1.31
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.02	0.04	0.06	0.07	0.05	0.04	0.04	0.02	0.02	0.02	0.07	0.07	0.08	0.06	0.06	0.03
Mn	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02
Ca	1.79	1.86	1.84	1.84	1.87	1.77	1.87	1.92	1.90	1.83	1.83	1.81	1.78	1.82	1.83	1.89
Na	0.18	0.08	0.08	0.09	0.07	0.17	0.07	0.05	0.06	0.13	0.09	0.10	0.11	0.10	0.09	0.06
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																
Na	0.53	0.52	0.53	0.51	0.60	0.58	0.58	0.63	0.63	0.54	0.52	0.52	0.50	0.54	0.50	0.41
K	0.16	0.26	0.23	0.15	0.12	0.11	0.18	0.19	0.19	0.21	0.12	0.13	0.07	0.08	0.12	0.11
TOTAL A	**0.69**	**0.77**	**0.76**	**0.66**	**0.72**	**0.69**	**0.76**	**0.83**	**0.81**	**0.75**	**0.64**	**0.65**	**0.57**	**0.62**	**0.62**	**0.51**
Vacancies	*0.31*	*0.23*	*0.24*	*0.34*	*0.28*	*0.31*	*0.24*	*0.17*	*0.19*	*0.25*	*0.36*	*0.35*	*0.43*	*0.38*	*0.38*	*0.49*
#Mg=Mg/(F	0.696	0.639	0.655	0.736	0.725	0.685	0.719	0.726	0.704	0.656	0.711	0.701	0.721	0.721	0.721	0.621

Table C.5- EPMA results for amphibole (cont)

PROFILE	3	3	3	3	3	2	2	2	3	3	2	3	2	0	0	0	0	0	0
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Bas	Bas	Bas	Low	Low	Low	Low	Low	Low
UNIT	Oxd Ol Leucog	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Oxd Px Gb	Px Gb	Px Gb	Ol Leucog	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog I	Ol Leucog I
CLASIF														Cpxnt	Cpxnt	Cpxnt	Cpxnt	Ol Leucog core	Ol Leucog core
DESCRIP	Hbl Br O_Oxd ©	Hbl Br O_Oxd (C)	Hbl Br intc ©	Hbl Br intc ©	Hbl Br intc (B)	Hbl Br_O_Oxd (C)	Hbl Br_O_Oxd (B)	Hbl Br_O_Oxd (C)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Cpx (C)	Hbl Br-O_Opx (C)	Hbl Br (C)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Oxd (C)	Hbl Br_O_Oxd (B)
SAMPLE	SB-11	SB-3	SB-12	SB-12	SB-12	MB-5	MB-5	MB-5	SB-S5	SB-S5	CNT-2	CNT-29	CNT-1	FG-8	FG-8	FG-8	FG-8	FG-5	FG-5
Label	426 (3_4)	457 (3_1)	522 (1_1)	526 (3_1)	527 (3_2)	1776 [1-5]	1777 [1-6]	1782 [2-5]	2556 [2-3]	2557 [2-4]	1299 [5-5]	1317 [3-8]	1506 [1-8]	2048 [4-1]	2049 [4-2]	2052 [5-1]	2053 [5-2]	1966 [3-9]	1967 [3-10]
SiO2	42.05	41.48	41.33	41.66	41.51	41.82	41.76	41.85	41.97	42.03	41.58	42.11	43.28	42.35	42.46	42.78	42.24	41.41	41.08
TiO2	3.80	3.10	3.51	3.41	2.77	2.80	2.81	3.10	4.32	4.00	2.90	3.59	2.67	4.15	4.06	3.77	4.10	3.62	3.67
Al2O3	12.28	12.32	12.23	11.79	12.28	12.97	13.14	11.84	11.21	10.97	12.12	11.69	11.79	11.29	11.24	10.39	11.59	12.68	12.96
Cr2O3	0.02	0.03	0.11	0.09	0.03	0.13	0.07	0.05	0.08	0.10	0.15	0.40	0.07	0.21	0.14	0.19	0.20	0.03	0.00
MgO	13.97	12.99	13.40	13.02	12.66	14.37	14.74	14.35	13.63	13.74	13.06	14.12	13.60	13.39	13.14	13.91	12.84	13.44	13.36
CaO	11.56	11.49	11.36	11.22	11.40	12.04	11.93	11.75	11.36	11.29	11.38	11.78	11.86	11.63	11.59	11.45	11.35	11.45	11.48
MnO	0.07	0.09	0.10	0.08	0.17	0.08	0.14	0.09	0.11	0.16	0.15	0.16	0.10	0.12	0.13	0.08	0.11	0.10	0.10
FeO	10.15	11.57	10.47	12.56	12.83	10.32	9.70	10.31	11.34	11.68	10.56	9.82	10.99	11.31	11.25	11.51	11.14	10.78	11.04
Na2O	2.65	2.27	2.39	2.72	2.24	2.09	2.24	2.24	2.73	2.58	2.23	2.89	2.40	2.33	2.32	2.35	2.37	2.35	2.29
K2O	0.53	1.08	0.71	0.61	0.87	0.81	0.79	0.70	0.81	0.76	0.82	0.53	0.76	0.89	0.87	0.75	1.04	0.92	0.94
Total	**97.08**	**96.42**	**95.60**	**97.16**	**96.77**	**97.44**	**97.32**	**96.29**	**97.57**	**97.32**	**94.95**	**97.08**	**97.53**	**97.68**	**97.20**	**97.19**	**97.00**	**96.77**	**96.92**
T																			
Si	6.17	6.18	6.18	6.17	6.18	6.10	6.09	6.19	6.19	6.21	6.26	6.21	6.35	6.23	6.28	6.31	6.26	6.12	6.07
Al IV	1.83	1.82	1.82	1.83	1.82	1.90	1.91	1.81	1.81	1.79	1.74	1.79	1.65	1.77	1.72	1.69	1.74	1.88	1.93
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																			
Al VI	0.30	0.35	0.33	0.23	0.33	0.34	0.35	0.26	0.14	0.12	0.41	0.24	0.38	0.19	0.24	0.12	0.29	0.33	0.33
Ti	0.42	0.35	0.39	0.38	0.31	0.31	0.31	0.35	0.48	0.44	0.33	0.40	0.29	0.46	0.45	0.42	0.46	0.40	0.41
Fe3+	0.12	0.15	0.15	0.23	0.26	0.31	0.31	0.22	0.12	0.21	0.12	0.05	0.08	0.08	0.04	0.18	0.02	0.17	0.20
Cr	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.05	0.01	0.02	0.02	0.02	0.02	0.00	0.00
Mg	3.06	2.89	2.98	2.88	2.81	3.13	3.20	3.17	2.99	3.02	2.93	3.10	2.97	2.94	2.90	3.06	2.84	2.96	2.94
Fe2+	1.10	1.26	1.13	1.27	1.28	0.90	0.83	1.00	1.26	1.20	1.20	1.16	1.26	1.30	1.35	1.20	1.37	1.13	1.12
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																			
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.03	0.03	0.03	0.06	0.05	0.04	0.05	0.05	0.02	0.04	0.01	0.00	0.01	0.01	0.00	0.04	0.00	0.03	0.04
Mn	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01
Ca	1.82	1.84	1.82	1.78	1.82	1.88	1.86	1.86	1.79	1.79	1.84	1.86	1.86	1.83	1.84	1.81	1.80	1.81	1.82
Na	0.15	0.12	0.14	0.15	0.11	0.06	0.07	0.07	0.17	0.15	0.13	0.13	0.11	0.14	0.15	0.14	0.19	0.14	0.12
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																			
Na	0.61	0.53	0.55	0.63	0.54	0.53	0.56	0.57	0.61	0.58	0.52	0.70	0.57	0.52	0.51	0.53	0.49	0.53	0.53
K	0.10	0.21	0.14	0.12	0.16	0.15	0.15	0.13	0.15	0.14	0.16	0.10	0.14	0.17	0.16	0.14	0.20	0.17	0.18
TOTAL A	**0.71**	**0.74**	**0.69**	**0.74**	**0.70**	**0.68**	**0.71**	**0.70**	**0.76**	**0.73**	**0.68**	**0.80**	**0.71**	**0.69**	**0.68**	**0.67**	**0.69**	**0.71**	**0.71**
Vacancies	*0.29*	*0.26*	*0.31*	*0.26*	*0.30*	*0.32*	*0.29*	*0.30*	*0.24*	*0.27*	*0.32*	*0.20*	*0.29*	*0.31*	*0.32*	*0.33*	*0.31*	*0.29*	*0.29*
#Mg=Mg/(F	0.710	0.667	0.695	0.649	0.637	0.713	0.730	0.713	0.682	0.677	0.688	0.719	0.688	0.678	0.676	0.683	0.673	0.690	0.683

Table C.5- EPMA results for amphibole (cont)

PROFILE	0	0	3	3	3	3	0	1	1	1	2	1	2	2	3	3	3	3	0
SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	(SB I)
GROUP	Low	Low	Low	Low	Low	Low	Int	Int	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	BG
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog II	Ol Leucog II	Px Gb III	Px Gb III	Px Gb III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Px Porph Gb	Px Porph Gb	Px Porph Gb	Px Porph Gb	Cum
CLASIF	Noritic Gb rim	Noritic Gb rim					Trcot						Transition	Transition					Troct
DESCRIP	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Opx (C)	Hbl Br_O_Ol (B)	Hbl Br_O_Ol (C)	Hbl Br_O_Ol (B)	Hbl after Opx_O_Hbl Br (C)	Hbl Br_O_Oxd (C)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Cpx (C)	Hbl Br_O_Cpx (C)	Hbl Br_O_Cpx (C)	Hbl Br_O_Cpx (B)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br Poik (C)	Hbl Br Poik (B)	Hbl Br_O_Oxd (C)
SAMPLE	FG-4	FG-4	CNT-7	CNT-7	CNT-7	CNT-7	MB-16	CNT-13	CNT-33	CNT-33	CNT-36	CNT-34	CNT-4	CNT-4	CNT-3B	CNT-3B	CNT-3B	CNT-3B	FA-4
Label	1897 [2-5]	1898 [2-6]	1607 [1-6]	1613 [2-6]	1620 [3-7]	1621[3-8]	2263 [1-4]	2056 [1-3]	2085 [3-5]	2086 [3-6]	2193 [3-4]	2133 [2-8]	2324 [1-3]	2325 [1-4]	2488 [1-1]	2489 [1-2]	2491[2-1]	2492 [2-2]	1263 [6-4]
SiO2	42.18	42.21	42.50	42.36	42.83	42.66	42.80	42.37	41.68	42.22	41.81	42.44	42.30	41.81	41.56	42.06	41.59	41.96	42.33
TiO2	3.52	3.82	2.15	2.47	2.31	2.38	1.96	2.79	3.32	2.96	2.68	3.37	3.08	3.23	3.73	3.38	3.43	3.17	2.77
Al2O3	13.14	12.63	13.07	12.18	12.16	12.28	12.84	13.20	12.67	12.19	12.46	12.31	12.12	12.20	12.05	12.23	12.01	11.90	13.22
Cr2O3	0.01	0.04	0.00	0.00	0.04	0.00	0.26	0.02	0.19	0.23	0.18	0.33	0.19	0.23	0.06	0.07	0.10	0.10	0.92
MgO	13.84	13.30	14.54	14.51	14.77	14.14	14.74	14.12	13.93	14.48	14.84	14.71	13.83	13.62	13.15	13.47	13.13	13.21	16.01
CaO	11.29	11.18	12.33	12.22	11.72	11.72	11.57	11.44	11.44	11.50	11.76	11.89	11.17	11.42	11.11	11.22	11.38	11.27	11.27
MnO	0.10	0.10	0.10	0.13	0.12	0.13	0.13	0.11	0.17	0.13	0.10	0.13	0.10	0.13	0.09	0.13	0.11	0.09	0.10
FeO	10.37	10.93	9.03	10.07	10.13	10.63	9.45	9.84	10.13	9.86	9.67	9.30	11.37	11.11	11.36	11.05	11.57	11.29	5.45
Na2O	2.63	2.37	2.18	2.30	2.29	2.26	2.03	2.48	2.56	2.56	2.61	2.46	2.57	2.40	2.63	2.59	2.72	2.59	2.68
K2O	0.70	0.75	1.00	0.85	0.80	0.84	0.85	0.85	0.76	0.65	0.75	0.70	0.67	0.73	0.50	0.61	0.56	0.65	0.42
Total	**97.78**	**97.33**	**96.90**	**97.08**	**97.17**	**97.04**	**96.62**	**97.22**	**96.85**	**96.77**	**96.86**	**97.65**	**97.40**	**96.87**	**96.25**	**96.82**	**96.60**	**96.23**	**95.16**
T																			
Si	6.14	6.19	6.23	6.22	6.26	6.26	6.25	6.19	6.14	6.20	6.14	6.18	6.20	6.17	6.18	6.20	6.18	6.24	6.19
Al IV	1.86	1.81	1.77	1.78	1.74	1.74	1.75	1.81	1.86	1.80	1.86	1.82	1.80	1.83	1.82	1.80	1.82	1.76	1.81
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																			
Al VI	0.39	0.37	0.49	0.33	0.35	0.39	0.46	0.46	0.34	0.31	0.30	0.29	0.29	0.29	0.29	0.33	0.29	0.33	0.47
Ti	0.39	0.42	0.24	0.27	0.25	0.26	0.22	0.31	0.37	0.33	0.30	0.37	0.34	0.36	0.42	0.38	0.38	0.36	0.30
Fe3+	0.20	0.18	0.08	0.17	0.26	0.22	0.30	0.19	0.18	0.22	0.23	0.14	0.28	0.22	0.19	0.19	0.15	0.15	0.16
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.02	0.03	0.02	0.04	0.02	0.03	0.01	0.01	0.01	0.01	0.11
Mg	3.00	2.90	3.18	3.18	3.22	3.09	3.21	3.07	3.06	3.17	3.25	3.19	3.02	3.00	2.91	2.96	2.91	2.93	3.49
Fe2+	1.02	1.13	1.02	1.05	0.91	1.04	0.78	0.97	1.03	0.95	0.90	0.97	1.04	1.10	1.18	1.13	1.26	1.22	0.47
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																			
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.04	0.04	0.01	0.02	0.06	0.05	0.07	0.04	0.03	0.05	0.05	0.02	0.07	0.05	0.04	0.04	0.03	0.03	0.03
Mn	0.01	0.01	0.01	0.02	0.01	0.02	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01
Ca	1.76	1.76	1.94	1.92	1.83	1.84	1.81	1.79	1.81	1.81	1.85	1.85	1.75	1.81	1.77	1.77	1.81	1.80	1.77
Na	0.18	0.19	0.04	0.04	0.09	0.10	0.10	0.15	0.14	0.13	0.08	0.11	0.17	0.13	0.18	0.17	0.15	0.16	0.19
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																			
Na	0.56	0.48	0.58	0.61	0.56	0.55	0.47	0.55	0.59	0.60	0.66	0.59	0.57	0.56	0.58	0.57	0.64	0.59	0.57
K	0.13	0.14	0.19	0.16	0.15	0.16	0.16	0.16	0.14	0.12	0.14	0.13	0.12	0.14	0.09	0.11	0.11	0.12	0.08
TOTAL A	**0.69**	**0.62**	**0.77**	**0.77**	**0.71**	**0.71**	**0.63**	**0.70**	**0.73**	**0.72**	**0.80**	**0.72**	**0.69**	**0.69**	**0.68**	**0.68**	**0.75**	**0.71**	**0.65**
Vacancies	*0.31*	*0.38*	*0.23*	*0.23*	*0.29*	*0.29*	*0.37*	*0.30*	*0.27*	*0.28*	*0.20*	*0.28*	*0.31*	*0.31*	*0.32*	*0.32*	*0.25*	*0.29*	*0.35*
#Mg=Mg/(F	0.704	0.684	0.742	0.720	0.722	0.703	0.736	0.719	0.710	0.723	0.732	0.738	0.684	0.686	0.674	0.685	0.669	0.676	0.840

Table C.5A- EPMA results for metasomatic (green) amphibole

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	2
SERIES	SB II	SB II	I	I	I	I	I	I	I	I	I	I	II	II	BRG I	BRG I	BRG I
GROUP	-	-	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int			Int	Upp	Upp
UNIT	-	-	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Anort	Anort	Anort	Ol Leucog III	Oxd Px Gb	Oxd Px Gb
CLASIF	Gbnor	Gbnor	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Leucog ss	Leucog ss	Anort	Anort	Anort	Anort		
DESCRIP	Hbl Br O_Oxd (C) ALT	Hbl Br bleb inc Megacx Pl (C) ALT	Hbl Gr_inc_Apt/ Oxds Chl (C)	Hbl Gr_inc_Oxd s (C)	Hbl Gr_inc_Oxd s (C_oxd)	Hbl Gr_Chl ©	Hbl Gr_Chl ©	Hbl Gr neai Hbl Br_O_Oxd (B)	Hbl Gr_inc_Apt/ Oxds Chl (C)	Hbl Gr Vein ©	Hbl Gr ©	Hbl Gr_intc (B)	Hbl Gr intc ©	Hbl Gr intc (B)	Hbl Br O_Cpx© ALT	Hbl Gr (C)	Hbl Gr (B)
SAMPLE	RS-11	RS-11	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	S-4-2	S-4-2	ODV-G-27	ODV-G-31	ODV-G-31	SB-2A	MB-5	MB-5
Label	299 (3_7)	1156 [5A-6]	M 201(1_2)	M 203 (2_2)	M 204 (2_3)	M 208 (4_2)	M 209 (4_3)	M 211(4_5)	M 213 (5_2)	M 409 (9_1)	M 413 (9_5)	M 472 (3_3)	M 593 (1_1)	M 596 (1_4)	538 (1_3)	1787 [4-1]	1788 [4-2]
SiO2	45.62	43.95	47.73	48.93	50.37	44.23	49.09	45.82	48.33	46.69	49.82	49.73	51.10	52.85	42.92	46.31	46.86
TiO2	2.22	2.71	0.53	0.41	0.54	1.55	0.45	0.46	0.55	0.81	0.60	0.39	0.43	0.22	2.76	1.44	1.26
Al2O3	8.93	10.08	6.86	5.84	4.42	9.38	5.82	8.51	6.62	7.22	5.03	4.88	4.73	2.76	11.15	8.12	7.85
Cr2O3	0.03	0.05	0.02	0.00	0.04	0.00	0.02	0.00	0.02	0.05	0.05	0.11	0.00	0.00	0.03	0.04	0.00
MgO	13.93	12.63	11.87	11.74	13.39	10.30	12.28	10.91	12.58	10.92	12.58	11.75	13.75	14.29	12.75	13.25	13.29
CaO	11.38	10.83	11.10	11.40	12.02	10.77	11.48	11.02	11.46	12.06	12.23	12.18	11.67	12.30	11.49	12.55	12.28
MnO	0.13	0.24	0.24	0.30	0.23	0.17	0.22	0.18	0.23	0.21	0.21	0.39	0.17	0.10	0.15	0.23	0.20
FeO	12.62	13.46	16.56	16.82	14.64	16.85	15.60	17.13	14.73	16.93	15.34	16.44	14.96	14.48	12.82	13.04	13.82
Na2O	1.38	1.69	1.29	1.05	0.85	1.59	1.06	1.69	1.24	0.93	0.69	0.70	0.64	0.33	1.63	1.41	1.54
K2O	0.83	0.91	0.07	0.07	0.06	0.07	0.05	0.08	0.06	0.44	0.29	0.07	0.05	0.04	0.38	0.33	0.34
Total	**97.07**	**96.54**	**96.27**	**96.55**	**96.55**	**94.91**	**96.08**	**95.79**	**95.82**	**96.26**	**96.83**	**96.64**	**97.51**	**97.37**	**96.08**	**96.73**	**97.44**
T																	
Si	6.69	6.52	7.11	7.27	7.43	6.73	7.30	6.90	7.19	7.03	7.37	7.41	7.42	7.68	6.38	6.85	6.89
Al IV	1.31	1.48	0.89	0.73	0.57	1.27	0.70	1.10	0.81	0.97	0.63	0.59	0.58	0.32	1.62	1.15	1.11
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C																	
Al VI	0.23	0.28	0.31	0.30	0.20	0.41	0.32	0.41	0.35	0.32	0.25	0.26	0.23	0.15	0.33	0.27	0.25
Ti	0.24	0.30	0.06	0.05	0.06	0.18	0.05	0.05	0.06	0.09	0.07	0.04	0.05	0.02	0.31	0.16	0.14
Fe3+	0.30	0.31	0.34	0.25	0.13	0.32	0.20	0.33	0.20	0.16	0.07	0.08	0.26	0.13	0.31	0.09	0.14
Cr	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00
Mg	3.04	2.79	2.63	2.60	2.94	2.34	2.72	2.45	2.79	2.45	2.78	2.61	2.98	3.09	2.82	2.92	2.91
Fe2+	1.18	1.31	1.65	1.81	1.67	1.75	1.71	1.76	1.60	1.97	1.83	1.96	1.49	1.61	1.22	1.52	1.55
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.02	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	5.00	5.00	5.00	5.00	5.00	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B																	
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.07	0.06	0.07	0.03	0.01	0.07	0.03	0.07	0.03	0.00	0.00	0.00	0.07	0.02	0.06	0.00	0.01
Mn	0.02	0.03	0.03	0.04	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.02	0.02	0.01	0.02	0.00	0.02
Ca	1.79	1.72	1.77	1.82	1.90	1.76	1.83	1.78	1.83	1.95	1.94	1.94	1.82	1.91	1.83	1.99	1.94
Na	0.13	0.19	0.13	0.11	0.06	0.15	0.12	0.13	0.12	0.03	0.04	0.03	0.10	0.05	0.09	0.01	0.03
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A																	
Na	0.27	0.29	0.24	0.19	0.18	0.32	0.19	0.37	0.24	0.24	0.16	0.17	0.09	0.04	0.38	0.40	0.40
K	0.15	0.17	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.05	0.01	0.01	0.01	0.07	0.06	0.06
TOTAL A	**0.42**	**0.47**	**0.25**	**0.20**	**0.19**	**0.33**	**0.20**	**0.38**	**0.25**	**0.33**	**0.21**	**0.18**	**0.10**	**0.05**	**0.45**	**0.46**	**0.47**
Vacancies	*0.58*	*0.53*	*0.75*	*0.80*	*0.81*	*0.67*	*0.80*	*0.62*	*0.75*	*0.67*	*0.79*	*0.82*	*0.90*	*0.95*	*0.55*	*0.54*	*0.53*
#Mg=Mg/(F	0.663	0.626	0.561	0.554	0.620	0.521	0.584	0.532	0.604	0.535	0.594	0.560	0.621	0.638	0.639	0.644	0.632

Table C.6- EPMA results for Cr-Spinel.

SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct
CLASIF	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Wehrl	Wehrl	Wehrl	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Troct
DESCRIP	Chr_Pl_matrix (C)	Chr_Pl_matrix (B)	Chr_inc_Hbl (C)	Chr_inc_Hbl (B)	Chr_Pl_matrix (C)	Chr_Pl_matrix (B)	Chr_inc_Ol (C)	Chr_inc_Ol (C)	Chr_inc_Ol (B)	Chr inc Pl (C)	Chr inc Pl (B)	Chr_inc_Ol (C)	Chr_inc_Ol (C)	Chr 2_inc_Ol (C)	Chr_inc_Pl (C)	Chr_inc_Pl (B)	Chr_inc_Pl (C)	Chr_inc_Pl (B)	Chr_inc_Pl (C)
SAMPLE	**RS-6**	**RS-6**	**RS-6**	**RS-6**	**RS-6**	**RS-6**	**RS-7**	**RS-7**	**RS-7**	**RS-7**	**RS-7**	**RS-8**	**RS-8**	**RS-8**	**RS-9**	**RS-9**	**RS-9**	**RS-9**	**RS-10**
Label	169 (1_1)	170 (1_2)	171 (2_1)	172 (2_2)	173 (3_1)	174 (3_2)	2647 [5-1]	2649 [6-1]	2650 [6-2]	2651[6-3]	2652 [6-4]	134 (7_2)	136 (8_2)	137 (8_3)	138 (1_1)	139 (1_2)	142 (3_1)	143 (3_2)	2677 [8-1]
Al2O3	19.47	20.07	20.52	21.10	18.73	18.67	26.19	18.64	18.50	16.80	17.29	11.45	13.16	13.44	12.15	12.21	12.57	12.63	9.13
MgO	7.73	7.90	8.91	8.82	7.57	7.49	10.92	6.71	6.67	7.06	7.15	5.37	5.22	5.28	5.87	5.84	5.84	5.77	2.13
MnO	0.64	2.10	5.02	4.97	0.55	1.76	0.36	0.45	0.41	0.45	0.43	2.18	4.87	5.09	4.55	4.61	2.85	4.77	0.46
V2O3	0.20	0.20	0.12	0.09	0.16	0.16	0.07	0.21	0.18	0.37	0.38	0.31	0.31	0.27	0.27	0.24	0.16	0.20	1.22
TiO2	0.92	0.82	0.19	0.18	1.06	1.06	0.08	0.82	0.85	1.32	1.39	2.48	2.81	2.26	2.24	2.14	2.23	2.14	2.22
ZnO	0.11	0.11	0.14	0.12	0.15	0.20						0.24	0.28	0.29	0.15	0.15	0.14	0.13	
NiO	0.05	0.07	0.04	0.04	0.08	0.07						0.07	0.12	0.11	0.10	0.11	0.10	0.09	
FeO	32.63	32.41	28.64	28.96	32.29	32.67	26.48	33.00	33.02	33.00	32.92	38.33	38.31	36.01	40.26	38.91	40.19	37.50	60.77
Cr2O3	35.15	34.72	37.74	36.46	35.13	35.59	34.71	36.82	37.08	38.18	36.59	36.37	35.44	38.25	34.45	34.40	33.55	35.54	21.59
TOTAL	**96.91**	**98.41**	**101.32**	**100.75**	**95.72**	**97.67**	**98.81**	**96.64**	**96.71**	**97.18**	**96.14**	**96.81**	**100.52**	**101.00**	**100.04**	**98.60**	**97.64**	**98.77**	**97.51**
Atoms per Unit formula																			
Al	6.05	6.13	6.06	6.25	5.91	5.79	7.63	5.87	5.83	5.29	5.48	3.75	4.13	4.20	3.82	3.90	4.04	4.02	3.05
Mg	3.04	3.05	3.33	3.30	3.02	2.94	4.02	2.67	2.66	2.82	2.87	2.22	2.07	2.09	2.34	2.36	2.37	2.32	0.90
Mn	0.14	0.46	1.06	1.06	0.12	0.39	0.07	0.10	0.09	0.10	0.10	0.51	1.10	1.14	1.03	1.06	0.66	1.09	0.11
V	0.04	0.04	0.02	0.02	0.03	0.03	0.01	0.04	0.04	0.08	0.08	0.07	0.07	0.06	0.06	0.05	0.04	0.04	0.28
Ti	0.18	0.16	0.04	0.03	0.21	0.21	0.01	0.16	0.17	0.26	0.28	0.52	0.56	0.45	0.45	0.44	0.46	0.44	0.47
Zn	0.02	0.02	0.03	0.02	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.05	0.06	0.06	0.03	0.03	0.03	0.03	0.00
Ni	0.01	0.02	0.01	0.01	0.02	0.01	0.00					0.02	0.03	0.02	0.02	0.02	0.02	0.02	
Fe2+	5.01	4.65	3.65	3.69	5.06	4.87	3.94	5.43	5.45	5.38	5.35	5.77	5.37	5.19	5.10	5.04	5.44	5.04	7.59
Fe3+	2.19	2.37	2.35	2.40	2.17	2.32	1.53	1.95	1.93	2.00	2.06	3.13	3.17	2.79	3.89	3.77	3.73	3.44	6.81
Cr	7.33	7.11	7.47	7.24	7.44	7.41	6.78	7.78	7.84	8.07	7.79	7.98	7.47	8.02	7.28	7.36	7.24	7.59	4.84
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.22	8.20	8.08	8.08	8.25	8.25	8.04	8.20	8.21	8.30	8.32	8.57	8.62	8.50	8.52	8.50	8.52	8.50	8.59
Ttriv	15.61	15.65	15.90	15.90	15.55	15.55	15.95	15.65	15.64	15.45	15.41	14.93	14.83	15.06	15.05	15.08	15.04	15.09	14.97
Ttetra	0.18	0.16	0.04	0.03	0.21	0.21	0.01	0.16	0.17	0.26	0.28	0.52	0.56	0.45	0.45	0.44	0.46	0.44	0.47
Tcat	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.02**	**24.02**	**24.02**	**24.02**	**24.02**	**24.02**	**24.02**	**24.04**
#Fe2+	0.62	0.60	0.52	0.53	0.63	0.62	0.50	0.67	0.67	0.66	0.65	0.72	0.72	0.71	0.69	0.68	0.70	0.68	0.89
#Fe3+	0.14	0.15	0.15	0.15	0.14	0.15	0.10	0.13	0.12	0.13	0.13	0.21	0.21	0.19	0.26	0.25	0.25	0.23	0.46
#Cr	0.55	0.54	0.55	0.54	0.56	0.56	0.47	0.57	0.57	0.60	0.59	0.68	0.64	0.66	0.66	0.65	0.64	0.65	0.61
#Mg	0.38	0.40	0.48	0.47	0.37	0.38	0.50	0.33	0.33	0.34	0.35	0.28	0.28	0.29	0.31	0.32	0.30	0.32	0.11
Usp	21	20	15	15	22	21	16	23	23	23	23	25	24	23	22	22	24	22	33

Table C.6- EPMA results for Cr-Spinel (cont).

SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	BG	BG	BG	BG	BG	BG
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	BG	BG	BG	BG	BG	BG
UNIT	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
DESCRIP	Chr_inc_Pl (B)	Chr_inc_Pl (C)	Chr_inc_Pl (B)	Chr_inc_Pl (B)	Chr_inc_Ol (C)	Chr_inc_Ol (C)	Mgt_inc_Cpx (C)	Mgt_inc_Cpx (C)	Chr GM (C)	Chr GM (B)	Mgt GM_inc_Cpx (C)	Mgt GM_inc_Cpx (C)	Mgt GM_inc_Pl (C)	Chr_inc_Ol (C)	Chr_inc_Ol (B)	Chr_inc_Ol (C)	Chr_inc_Ol (B)	Chr inc Pl (C)	Chr_inc_Ol (C)
SAMPLE	RS-10	RS-10	RS-10	RS-15	RS-15	RS-15	RS-17	RS-17	RS-2	RS-2	RS-3	RS-3	RS-3	FA-4	FA-4	FA-4	FA-4	FA-4	FA-4
Label	2678 [8-2]	2679 [9-1]	2680 [9-2]	2670 [1-2]	2671[2-1]	2673 [3-2]	2643 [4-1]	2644 [4-2]	159 (1_1)	162 (1_4)	2666 [2A-1]	2667 [2A-2]	2668 [2A-3]	2608 [2-1]	2609 [2-2]	2610 [2-3]	2611[2-4]	2612 [2-5]	2613 [3-1]
Al2O3	8.78	13.36	13.93	4.89	11.58	11.62	3.23	3.12	8.18	8.20	3.50	4.58	4.56	24.18	24.67	24.96	26.15	23.08	26.46
MgO	2.08	3.27	3.33	2.67	5.85	2.93	0.75	0.73	1.99	2.01	1.05	0.84	1.22	9.02	9.41	9.06	9.51	5.57	9.00
MnO	0.41	0.77	2.53	0.47	0.42	0.43	0.37	0.34	0.54	0.39	0.24	0.41	0.29	0.35	0.41	1.57	0.35	0.39	0.37
V2O3	1.22	0.22	0.21	0.46	0.39	0.51	0.45	0.43	0.71	0.47	0.55	0.40	0.53	0.33	0.34	0.31	0.31	0.37	0.30
TiO2	2.20	2.04	1.88	3.09	1.84	1.95	6.40	4.55	3.15	3.05	2.02	6.91	4.19	1.11	1.16	1.06	1.00	1.06	1.17
ZnO									0.12	0.03									
NiO									0.09	0.09									
FeO	59.81	48.24	47.40	63.52	57.16	52.89	74.85	77.27	60.54	61.66	79.93	75.15	74.58	29.12	27.44	28.18	28.25	34.48	29.54
Cr2O3	20.99	28.49	27.62	20.04	20.34	24.83	8.12	7.95	20.15	20.22	7.97	9.02	8.38	32.19	33.10	32.21	32.97	32.53	30.64
TOTAL	**95.48**	**96.38**	**96.90**	**95.14**	**97.58**	**95.16**	**94.16**	**94.40**	**95.48**	**96.13**	**95.26**	**97.30**	**93.75**	**96.31**	**96.54**	**97.33**	**98.54**	**97.47**	**97.49**
Atoms per Unit formula																			
Al	2.99	4.41	4.56	1.69	3.72	3.91	1.15	1.11	2.80	2.79	1.22	1.57	1.62	7.35	7.45	7.49	7.71	7.14	7.88
Mg	0.90	1.36	1.38	1.17	2.37	1.25	0.34	0.33	0.86	0.86	0.46	0.37	0.55	3.47	3.59	3.44	3.55	2.18	3.39
Mn	0.10	0.18	0.59	0.12	0.10	0.10	0.09	0.09	0.13	0.10	0.06	0.10	0.08	0.08	0.09	0.34	0.07	0.09	0.08
V	0.28	0.05	0.05	0.11	0.08	0.12	0.11	0.10	0.17	0.11	0.13	0.09	0.13	0.07	0.07	0.06	0.06	0.08	0.06
Ti	0.48	0.43	0.39	0.68	0.38	0.42	1.46	1.03	0.69	0.66	0.45	1.52	0.95	0.22	0.22	0.20	0.19	0.21	0.22
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ni									0.02	0.02									
Fe2+	7.61	6.96	6.50	7.54	6.03	7.17	9.20	8.81	7.77	7.80	8.14	9.21	8.51	4.70	4.56	4.46	4.59	5.97	4.78
Fe3+	6.88	4.33	4.50	8.07	6.98	5.47	9.76	10.69	6.94	7.08	11.73	9.11	10.25	1.58	1.32	1.54	1.32	1.60	1.47
Cr	4.80	6.30	6.06	4.66	4.38	5.61	1.94	1.90	4.63	4.61	1.87	2.08	1.99	6.56	6.70	6.48	6.52	6.75	6.12
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.60	8.51	8.47	8.83	8.50	8.52	9.63	9.22	8.81	8.79	8.66	9.68	9.13	8.24	8.25	8.23	8.21	8.24	8.25
Ttriv	14.96	15.09	15.16	14.54	15.16	15.10	12.97	13.81	14.54	14.59	14.96	12.86	13.98	15.55	15.54	15.58	15.61	15.56	15.54
Ttetra	0.48	0.43	0.39	0.68	0.38	0.42	1.46	1.03	0.69	0.66	0.45	1.52	0.95	0.22	0.22	0.20	0.19	0.21	0.22
Tcat	**24.04**	**24.03**	**24.03**	**24.05**	**24.04**	**24.03**	**24.06**	**24.06**	**24.04**	**24.04**	**24.07**	**24.05**	**24.06**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**
#Fe2+	0.89	0.84	0.82	0.87	0.72	0.85	0.96	0.96	0.90	0.90	0.95	0.96	0.94	0.58	0.56	0.56	0.56	0.73	0.58
#Fe3+	0.47	0.29	0.30	0.56	0.46	0.36	0.76	0.78	0.48	0.49	0.79	0.71	0.74	0.10	0.09	0.10	0.08	0.10	0.09
#Cr	0.62	0.59	0.57	0.73	0.54	0.59	0.63	0.63	0.62	0.62	0.60	0.57	0.55	0.47	0.47	0.46	0.46	0.49	0.44
#Mg	0.11	0.16	0.18	0.13	0.28	0.15	0.04	0.04	0.10	0.10	0.05	0.04	0.06	0.42	0.44	0.44	0.44	0.27	0.42
Usp	33	30	28	33	26	31	43	40	34	34	35	43	38	20	20	19	20	25	20

Table C.6- EPMA results for Cr-Spinel (cont).

SERIES	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
GROUP	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
UNIT	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
CLASIF	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite	Troctolite
DESCRIP	Chr_inc_Ol (B)	Chr_inc_Ol (C)	Chr_inc_Ol (B)	Chr_inc_Ol (C)	Chr inc Pl (C)	Chr inc Pl (B)	Chr inc Pl (C)	Chr inc Pl (C)	Chr inc Pl (C)	Chr inc Pl (C)	Chr O_Hbl Br (C)	Chr O_Hbl Br (C)	Chr O_Hbl Br (C)	Chr O_Hbl Br (C)	Chr O_Hbl Br (C)	Chr O_Hbl Br (C)
SAMPLE	FA-4	FA-4	FA-4	FA-4	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5	FA-5
Label	2614 [3-2]	2617 [8-3]	2618 [8-4]	2619 [9-1]	2620 [1-1]	2621 [1-2]	2622 [6-1]	2623 [6-3]	2624 [6-4]	2625 [7-1]	2626 [8-1]	2627 [9-1]	2628 [9-2]	2629 [9-3	2630 [9-4]	2631 [10-1]
Al2O3	27.01	25.41	25.58	23.13	26.05	29.77	24.04	29.13	28.29	28.03	37.08	27.77	27.66	30.16	28.57	29.81
MgO	8.99	8.59	8.57	8.89	7.77	8.86	4.57	9.07	8.63	9.47	11.21	6.98	7.52	8.05	8.45	8.17
MnO	0.34	0.35	0.35	0.38	0.32	0.31	0.34	0.33	0.53	1.49	0.28	0.37	0.34	0.29	0.32	0.29
V2O3	0.33	0.33	0.32	0.35	0.22	0.16	0.37	0.16	0.16	0.14	0.16	0.24	0.26	0.19	0.22	0.20
TiO2	0.95	1.28	1.14	1.51	1.32	0.79	0.92	0.77	0.75	0.62	0.61	1.30	0.96	0.88	0.73	0.79
ZnO																
NiO																
FeO	30.57	32.06	31.76	30.64	31.93	29.09	37.04	29.24	28.87	30.06	24.80	31.98	31.75	31.47	30.21	29.82
Cr2O3	30.57	30.42	29.47	32.62	29.15	29.55	30.56	28.43	29.49	28.02	21.31	28.12	28.65	26.15	28.16	26.54
TOTAL	**98.77**	**98.44**	**97.19**	**97.52**	**96.77**	**98.53**	**97.83**	**97.12**	**96.72**	**97.83**	**95.46**	**96.77**	**97.14**	**97.19**	**96.67**	**95.63**
Atoms per Unit formula																
Al	7.94	7.56	7.69	6.99	7.89	8.69	7.43	8.61	8.44	8.24	10.61	8.40	8.30	8.93	8.53	8.95
Mg	3.34	3.23	3.26	3.40	2.98	3.27	1.79	3.39	3.26	3.52	4.06	2.67	2.86	3.01	3.19	3.10
Mn	0.07	0.07	0.07	0.08	0.07	0.06	0.08	0.07	0.11	0.32	0.06	0.08	0.07	0.06	0.07	0.06
V	0.07	0.07	0.07	0.07	0.05	0.03	0.08	0.03	0.03	0.03	0.03	0.05	0.05	0.04	0.05	0.04
Ti	0.18	0.24	0.22	0.29	0.25	0.15	0.18	0.14	0.14	0.12	0.11	0.25	0.18	0.17	0.14	0.15
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ni																
Fe2+	4.79	4.97	4.92	4.84	5.24	4.83	6.35	4.71	4.80	4.31	4.01	5.53	5.28	5.12	4.90	5.01
Fe3+	1.59	1.80	1.85	1.73	1.62	1.19	1.77	1.42	1.32	1.95	1.02	1.33	1.49	1.49	1.49	1.34
Cr	6.03	6.07	5.94	6.61	5.92	5.78	6.34	5.63	5.90	5.53	4.09	5.70	5.77	5.19	5.64	5.35
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.21	8.28	8.25	8.32	8.28	8.17	8.21	8.17	8.17	8.15	8.13	8.27	8.21	8.19	8.17	8.18
Ttriv	15.62	15.49	15.54	15.40	15.47	15.69	15.62	15.69	15.70	15.75	15.76	15.48	15.61	15.65	15.70	15.68
Ttetra	0.18	0.24	0.22	0.29	0.25	0.15	0.18	0.14	0.14	0.12	0.11	0.25	0.18	0.17	0.14	0.15
Tcat	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**	**24.01**
#Fe2+	0.59	0.61	0.60	0.59	0.64	0.60	0.78	0.58	0.60	0.55	0.50	0.67	0.65	0.63	0.61	0.62
#Fe3+	0.10	0.12	0.12	0.11	0.11	0.08	0.11	0.09	0.08	0.12	0.07	0.09	0.10	0.10	0.10	0.09
#Cr	0.43	0.45	0.44	0.49	0.43	0.40	0.46	0.40	0.41	0.40	0.28	0.40	0.41	0.37	0.40	0.37
#Mg	0.41	0.39	0.40	0.41	0.36	0.40	0.22	0.42	0.40	0.45	0.50	0.33	0.35	0.37	0.39	0.38
Usp	20	21	21	21	22	21	27	20	20	18	17	24	22	22	21	21

Table C.7- EPMA results for Fe-Ti Spinel.

SERIES	SB I	SB I	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	-	-												Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Ol Leucog	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl
DESCRIP	Mgt GM (C)	Mgt GM (B)	Mgt inc Cpx (C)	Mgt GE (C)	Mgt GE (C)	Mgt GE (B)	Mgt (C)	Mgt (B)	Mgt GM (C)	Mgt GM (B)	Mgt GM (C)	Mgt GM (B)	Mgt_inc_ Cpx (C)	Mgt GM (C)	Mgt GM (B)	Mgt GM (C)	Mgt GM (B)	Mgt GM ©	Mgt GM (B)
SAMPLE	RS-3	RS-3	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	ODV-G-4A1	ODV-G-4A1	ODV-G-4A1	ODV-G-4A1	ODV-G-1	ODV-G-1
Label	2664 [2A-3]	2665 [2A-4]	151(4_2)	168 (6_1A)	152 (6_1)	153 (6_2)	158 (8_2)	157 (8_1)	2652B [1A-1]	2653 [1A-2]	2656 [2A-1]	2657 [2A-2]	2661[3A-2]	2 (4_2)	1(4_1)	6 (1_3)	7 (1_4)	M41(3_3)	M40 (3_2)
Al2O3	0.61	0.44	1.55	1.23	1.40	1.47	1.09	1.31	1.65	1.74	1.35	1.68	1.49	2.95	3.63	1.70	1.52	1.58	3.05
MgO	0.31	0.93	0.50	0.24	0.32	0.40	0.26	0.40	0.58	0.47	0.41	0.45	0.39	0.60	0.89	0.40	0.43	0.71	1.15
MnO	0.00	0.00	0.12	0.25	0.06	0.10	0.27	0.12	0.12	0.11	0.17	0.19	0.12	0.37	0.40	0.28	0.39	0.43	0.40
V2O3	1.57	1.59	0.71	0.62	0.74	0.66	0.52	0.43	1.02	1.00	0.64	0.64	0.84	0.80	0.62	0.62	0.87	1.51	1.52
TiO2	0.80	0.75	3.02	2.78	1.69	1.92	4.98	1.77	2.58	2.38	2.27	2.17	2.11	9.07	10.47	7.75	9.52	12.40	12.61
ZnO			0.10	0.00	0.03	0.00	0.03	0.04						0.00	0.04	0.01	0.00	0.02	0.01
NiO			0.03	0.00	0.01	0.02	0.01	0.00						0.02	0.04	0.00	0.00	0.00	0.00
FeO	89.61	88.55	82.11	86.61	85.05	84.53	84.77	86.42	85.45	85.86	87.51	87.02	86.49	79.36	76.05	81.06	79.60	79.40	78.67
Cr2O3	1.53	1.45	0.96	0.97	1.07	1.09	1.15	1.12	1.59	1.51	0.70	0.63	1.80	0.23	0.20	0.25	0.27	0.06	0.04
TOTAL	94.42	93.70	89.10	92.71	90.35	90.19	93.08	91.62	92.98	93.07	93.05	92.78	93.23	93.40	92.34	92.08	92.60	96.10	97.44
Atoms per Unit formula																			
Al	0.22	0.16	0.59	0.45	0.52	0.55	0.40	0.48	0.60	0.63	0.49	0.61	0.54	1.06	1.32	0.62	0.56	0.56	1.05
Mg	0.14	0.42	0.24	0.11	0.15	0.19	0.12	0.19	0.27	0.22	0.19	0.21	0.18	0.27	0.41	0.19	0.20	0.32	0.50
Mn	0.00	0.00	0.03	0.06	0.02	0.03	0.07	0.03	0.03	0.03	0.04	0.05	0.03	0.09	0.10	0.08	0.10	0.11	0.10
V	0.38	0.39	0.18	0.15	0.19	0.17	0.13	0.11	0.25	0.25	0.16	0.16	0.21	0.20	0.15	0.16	0.22	0.36	0.36
Ti	0.18	0.17	0.73	0.65	0.40	0.46	1.16	0.42	0.60	0.55	0.53	0.50	0.49	2.09	2.43	1.82	2.23	2.79	2.78
Zn	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Ni	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Fe2+	8.30	8.01	8.66	8.71	8.48	8.49	9.19	8.44	8.54	8.54	8.54	8.50	8.52	9.90	10.06	9.76	10.11	10.53	10.33
Fe3+	14.50	14.59	13.37	13.70	14.05	13.93	12.72	14.13	13.42	13.50	13.97	13.91	13.68	10.39	9.52	11.39	10.58	9.37	8.93
Cr	0.37	0.35	0.24	0.24	0.27	0.27	0.28	0.28	0.39	0.37	0.17	0.15	0.44	0.05	0.05	0.06	0.07	0.01	0.01
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.44	8.43	8.97	8.89	8.65	8.71	9.39	8.67	8.84	8.79	8.78	8.75	8.73	10.27	10.60	10.02	10.41	10.96	10.94
Ttriv	15.46	15.48	14.38	14.54	15.03	14.92	13.53	15.00	14.65	14.74	14.78	14.83	14.86	11.70	11.04	12.23	11.42	10.30	10.34
Ttetra	0.18	0.17	0.73	0.65	0.40	0.46	1.16	0.42	0.60	0.55	0.53	0.50	0.49	2.09	2.43	1.82	2.23	2.79	2.78
Tcat	24.09	24.09	24.08	24.08	24.08	24.08	24.08	24.08	24.08	24.08	24.08	24.08	24.08	24.06	24.06	24.07	24.06	24.06	24.05
#Fe2+	0.98	0.95	0.97	0.99	0.98	0.98	0.99	0.98	0.97	0.98	0.98	0.98	0.98	0.97	0.96	0.98	0.98	0.97	0.95
#Fe3+	0.96	0.97	0.94	0.95	0.95	0.94	0.95	0.95	0.93	0.93	0.95	0.95	0.93	0.90	0.87	0.94	0.94	0.94	0.89
#Cr	0.63	0.69	0.29	0.35	0.34	0.33	0.41	0.37	0.39	0.37	0.26	0.20	0.45	0.05	0.04	0.09	0.11	0.03	0.01
#Mg	0.02	0.05	0.03	0.01	0.02	0.02	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.04	0.02	0.02	0.03	0.05
Usp	35	34	38	38	36	37	42	36	37	37	37	37	37	48	49	46	49	53	52

Table C.7- EPMA results for Fe-Ti Spinel (cont)

SERIES	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol_Opx Gb
DESCRIP	Mgt GM ©	Mgt GM ©	Mgt GM (B)	Mgt GM (B)	Mgt GM ©	Mgt GM ©	Mgt ©	Mgt (B)	Mgt GE (C)	Mgt GE (C)	Mgt GE (B)	Mgt GM (C)	Mgt GM (B)	Mgt GM (B)	Mgt GM (B)	Mgt GM (B)	Mgt (B)	Mgt (C)	Mgt GM (C)	
SAMPLE	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-36	
Label	M46 (4_4)	M49(5_3)	M48 (5_2)	M51(6_1)	M56 (7_3)	M59 (8_3)	M61(10_2)	M60 (10_1)	M8 (6_1)	M10 (6_3)	M9 (6_2)	M16 (4_2)	M15 (4_1)	M21(5_1)	M25 (7_1)	M30 (8_3)	M31(9_1)	M34 (10_1)	30 (5_2)	
Al2O3	3.58	3.67	2.45	1.38	0.60	6.52	4.77	3.47	3.66	4.42	3.24	3.75	3.78	3.37	3.69	3.42	4.47	4.04	3.89	
MgO	1.19	0.83	0.82	1.33	0.23	2.13	1.65	0.75	1.16	1.19	0.78	0.76	0.66	0.80	0.67	0.92	1.07	1.19	0.74	
MnO	0.42	0.41	0.38	0.61	0.01	0.45	0.31	0.54	0.40	0.35	0.35	0.36	0.35	0.23	0.39	0.32	0.34	0.33	0.29	
V2O3	1.53	1.50	1.59	1.67	1.68	1.46	1.47	1.50	1.21	1.30	1.32	1.20	1.21	1.19	1.30	1.27	1.22	1.33	0.38	
TiO2	12.75	11.36	12.03	23.96	2.77	12.86	11.14	13.33	12.76	13.86	13.65	11.37	11.14	11.09	12.19	11.99	11.87	12.91	9.37	
ZnO	0.14	0.03	0.06	0.09	0.01	0.23	0.18	0.10	0.08	0.17	0.06	0.02	0.13	0.06	0.02	0.10	0.10	0.08	0.04	
NiO	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.02	0.00	
FeO	75.80	72.86	74.03	64.18	84.14	73.84	75.85	74.69	75.51	69.49	71.72	78.49	80.25	76.30	75.08	76.42	73.64	74.47	77.35	
Cr2O3	0.05	0.08	0.08	0.00	0.05	0.04	0.07	0.10	0.02	0.07	0.03	0.03	0.02	0.02	0.08	0.03	0.05	0.05	0.05	
TOTAL	**95.45**	**90.76**	**91.46**	**93.22**	**89.48**	**97.53**	**95.44**	**94.48**	**94.82**	**90.85**	**91.14**	**96.04**	**97.54**	**93.07**	**93.41**	**94.48**	**92.76**	**94.41**	**92.10**	
Atoms per Unit formula																				
Al	1.26	1.36	0.90	0.50	0.23	2.20	1.66	1.24	1.29	1.62	1.20	1.31	1.30	1.22	1.33	1.22	1.61	1.43	1.41	
Mg	0.53	0.39	0.38	0.62	0.11	0.91	0.72	0.34	0.52	0.56	0.36	0.34	0.29	0.37	0.30	0.41	0.49	0.53	0.34	
Mn	0.11	0.11	0.10	0.16	0.00	0.11	0.08	0.14	0.10	0.09	0.09	0.09	0.09	0.06	0.10	0.08	0.09	0.08	0.07	
V	0.37	0.38	0.40	0.42	0.43	0.33	0.35	0.36	0.29	0.33	0.33	0.29	0.28	0.29	0.32	0.31	0.30	0.32	0.09	
Ti	2.86	2.68	2.83	5.60	0.67	2.77	2.47	3.03	2.88	3.25	3.22	2.54	2.45	2.55	2.80	2.72	2.73	2.92	2.17	
Zn	0.03	0.01	0.01	0.02	0.00	0.05	0.04	0.02	0.02	0.04	0.01	0.01	0.03	0.01	0.00	0.02	0.02	0.02	0.01	
Ni	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fe2+	10.35	10.33	10.49	12.87	8.80	9.84	9.79	10.68	10.39	10.70	10.89	10.26	10.21	10.28	10.55	10.36	10.28	10.43	9.93	
Fe3+	8.55	8.79	8.90	3.82	13.82	7.83	8.93	8.21	8.55	7.44	7.93	9.21	9.40	9.27	8.63	8.92	8.53	8.30	10.02	
Cr	0.01	0.02	0.02	0.00	0.01	0.01	0.02	0.02	0.01	0.02	0.01	0.01	0.01	0.00	0.02	0.01	0.01	0.01	0.01	
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	
Tdiv	11.01	10.84	10.99	13.67	8.92	10.91	10.63	11.18	11.03	11.39	11.36	10.70	10.62	10.72	10.95	10.88	10.88	11.07	10.35	
Ttriv	10.18	10.54	10.23	4.74	14.50	10.37	10.95	9.84	10.14	9.41	9.47	10.82	10.99	10.78	10.30	10.45	10.45	10.06	11.53	
Ttetra	2.86	2.68	2.83	5.60	0.67	2.77	2.47	3.03	2.88	3.25	3.22	2.54	2.45	2.55	2.80	2.72	2.73	2.92	2.17	
Tcat	**24.05**	**24.05**	**24.05**	**24.02**	**24.08**	**24.05**	**24.05**	**24.05**	**24.05**	**24.04**	**24.05**	**24.05**	**24.06**	**24.06**	**24.05**	**24.05**	**24.05**	**24.05**	**24.06**	
#Fe2+	0.95	0.96	0.96	0.95	0.99	0.92	0.93	0.97	0.95	0.95	0.97	0.97	0.97	0.97	0.97	0.96	0.95	0.95	0.97	
#Fe3+	0.87	0.86	0.91	0.88	0.98	0.78	0.84	0.87	0.87	0.82	0.87	0.87	0.88	0.88	0.87	0.88	0.84	0.85	0.88	
#Cr	0.01	0.01	0.02	0.00	0.06	0.00	0.01	0.02	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	
#Mg	0.05	0.04	0.04	0.05	0.01	0.08	0.07	0.03	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0.05	0.03	
Usp	52	51	53	74	38	50	48	54	52	55	56	51	50	51	53	52	51	53	48	

Table C.7- EPMA results for Fe-Ti Spinel (cont)

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Leucog ss	Leucog ss	Leucog ss	Leucog ss	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog
DESCRIP	Mgt GM (C)	Mgt GM (C)	Mgt GM (B)	Mgt GE ©	Mgt GE (B)	Mgt GE ©	Mgt GM ©	Mgt GC ©	Mgt GE (B)	Mgt GE (C)	Mgt GM ©	Mgt GE ©	Mgt GE (B)	Mgt GE ©	Mgt GE (C)	Mgt GM (C)	Mgt GM (B)	Mgt GE (C)	Mgt GM (B)
SAMPLE	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	S-4-2	S-4-2	S-4-2	S-4-2	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34
Label	31(5_3)	37 (7_4)	34 (7_1)	M 87 (1_1)	M 88 (1_2)	M 93 (2_2)	M 108 (8_5)	M 111(9_3)	M 113(10_1)	M 115 (10_3)	M 148 (3_3)	M 151(4_3)	M 150 (4_2)	M 154 (6_1)	50 (5_2)	52 (5_4)	51(5_3)	54 (6_2)	58 (4_4)
Al2O3	2.55	3.35	6.15	0.30	0.47	0.85	0.39	0.10	0.45	1.29	0.59	0.43	0.95	1.50	5.02	3.47	3.48	3.09	3.83
MgO	0.46	0.66	1.53	0.00	0.07	0.02	0.08	0.00	0.00	0.00	0.03	0.00	0.09	0.47	1.30	0.93	0.93	0.71	0.49
MnO	0.33	0.33	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.40	0.39	0.33	0.44	0.37
V2O3	0.28	0.30	0.38	0.91	1.01	0.86	1.15	1.60	0.94	0.98	1.11	1.09	1.11	1.13	0.50	0.39	0.39	0.33	0.50
TiO2	9.07	9.54	9.47	0.98	0.64	0.80	0.69	1.19	0.59	0.60	0.41	0.39	1.33	2.09	9.50	11.70	11.68	9.55	9.86
ZnO	0.05	0.05	0.15	0.02	0.00	0.14	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.08	0.08	0.06	0.01	0.06
NiO	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.03	0.03	0.00	0.00	0.05	0.06	0.02	0.00	0.00	0.00	0.01
FeO	78.77	79.00	77.11	91.44	91.82	90.11	88.02	91.53	92.54	87.20	90.58	88.42	86.32	83.00	76.23	75.08	76.48	79.08	76.69
Cr2O3	0.04	0.06	0.04	0.06	0.11	0.08	0.13	0.10	0.08	0.10	0.19	0.13	0.11	0.13	0.01	0.01	0.03	0.06	0.02
TOTAL	91.55	93.29	95.12	93.72	94.12	92.89	90.46	94.53	94.64	90.19	92.92	90.46	89.97	88.42	93.06	92.07	93.39	93.28	91.82
Atoms per Unit formula																			
Al	0.94	1.21	2.13	0.11	0.17	0.31	0.15	0.04	0.16	0.48	0.21	0.16	0.36	0.57	1.79	1.27	1.25	1.11	1.40
Mg	0.21	0.30	0.67	0.00	0.03	0.01	0.04	0.00	0.00	0.00	0.02	0.00	0.04	0.23	0.59	0.43	0.42	0.33	0.23
Mn	0.09	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.10	0.09	0.11	0.10
V	0.07	0.07	0.09	0.22	0.25	0.21	0.29	0.39	0.23	0.25	0.28	0.28	0.28	0.29	0.12	0.10	0.10	0.08	0.12
Ti	2.13	2.19	2.09	0.23	0.15	0.19	0.16	0.27	0.14	0.14	0.09	0.09	0.32	0.51	2.16	2.72	2.68	2.20	2.30
Zn	0.01	0.01	0.03	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.00	0.01
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Fe2+	10.01	9.98	9.49	8.49	8.38	8.41	8.39	8.54	8.40	8.40	8.35	8.36	8.52	8.50	9.62	10.33	10.32	9.94	10.14
Fe3+	10.59	10.20	9.47	15.02	15.08	14.91	15.02	14.82	15.14	14.78	15.09	15.16	14.52	13.92	9.65	9.08	9.18	10.28	9.76
Cr	0.01	0.01	0.01	0.02	0.03	0.02	0.03	0.02	0.02	0.03	0.05	0.03	0.03	0.03	0.00	0.00	0.01	0.01	0.01
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	10.32	10.37	10.26	8.50	8.42	8.45	8.43	8.54	8.41	8.41	8.36	8.37	8.58	8.76	10.33	10.88	10.84	10.38	10.47
Ttriv	11.61	11.50	11.70	15.37	15.53	15.45	15.49	15.28	15.55	15.54	15.63	15.63	15.19	14.82	11.56	10.45	10.53	11.49	11.28
Ttetra	2.13	2.19	2.09	0.23	0.15	0.19	0.16	0.27	0.14	0.14	0.09	0.09	0.32	0.51	2.16	2.72	2.68	2.20	2.30
Tcat	24.06	24.06	24.06	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.08	24.06	24.05	24.05	24.06	24.06
#Fe2+	0.98	0.97	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.97	0.94	0.96	0.96	0.97	0.98
#Fe3+	0.92	0.89	0.82	0.99	0.99	0.98	0.99	1.00	0.99	0.97	0.98	0.99	0.97	0.96	0.84	0.88	0.88	0.90	0.87
#Cr	0.01	0.01	0.00	0.12	0.14	0.06	0.18	0.40	0.11	0.05	0.18	0.17	0.07	0.05	0.00	0.00	0.01	0.01	0.00
#Mg	0.02	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.06	0.04	0.04	0.03	0.02
Usp	48	48	46	36	35	35	35	36	35	35	35	35	36	37	47	52	51	48	49

Table C.7- EPMA results for Fe-Ti Spinel (cont)

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog	Leucog	Leucog	Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog ss	Leucog ss	Leucog ss	Leucog ss
DESCRIP	Mgt GE (C)	Mgt GE (C)	Mgt GM (C)	Mgt GE (C)	Mgt GC(C)	Mgt GE	Mgt GE	Mgt GE	Mgt GM (B)	Mgt GM_Pleon (C)	Mgt GM (B)	Mgt GE (C)	Mgt GE (B)	Mgt GE (C)	Mgt GE (C)	Mgt GM (C)	Mgt (C)	Mgt (B)	Mgt GE (C)
SAMPLE	ODV-G-26	ODV-G-26	ODV-G-26	ODV-G-26	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-21	ODV-G-21	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-38
Label	60 (1_2)	65 (1_5)	61(1_3)	68 (3_2)	70 (4_2)	19 (0_1)	20 (0_2)	21(0_3)	18 (2_2)	25 (1_4)	24 (1_3)	27 (3_2)	26 (3_1)	10 (5_1)	12 (5_3)	83 (5_2)	86 (6_2)	85 (6_1)	88 (7_2)
Al2O3	0.96	4.28	2.22	2.59	1.15	2.86	4.10	2.56	1.71	5.49	0.88	2.06	1.10	0.43	0.78	3.15	3.62	3.05	3.76
MgO	0.08	0.48	0.52	0.46	0.00	1.18	1.54	1.12	0.35	1.80	0.30	0.49	0.50	0.12	0.37	0.87	0.73	0.84	1.22
MnO	0.05	0.33	0.22	0.20	0.09	0.24	0.22	0.32	0.22	0.06	0.01	0.22	0.08	0.22	0.68	0.31	0.24	0.21	0.23
V2O3	0.66	0.34	0.18	0.41	0.41	0.59	0.62	0.50	0.70	0.91	0.79	0.73	0.86	0.23	0.71	0.44	1.05	0.62	0.37
TiO2	0.93	4.93	3.02	4.35	1.15	4.56	4.94	5.59	4.22	3.92	1.36	3.68	1.88	6.50	19.00	8.60	7.50	8.04	8.00
ZnO	0.07	0.08	0.06	0.04	0.03	0.00	0.03	0.02	0.03	0.06	0.00	0.01	0.00	0.01	0.05	0.03	0.06	0.00	0.09
NiO	0.03	0.01	0.00	0.04	0.03	0.01	0.04	0.00	0.01	0.00	0.00	0.06	0.00	0.01	0.05	0.02	0.02	0.03	0.00
FeO	90.47	81.68	86.87	83.03	87.91	81.32	79.36	80.29	83.36	80.57	87.74	83.85	87.55	82.93	67.39	77.79	78.90	79.83	78.08
Cr2O3	0.47	0.48	0.06	0.74	0.45	0.12	0.09	0.13	0.10	0.17	0.13	0.11	0.13	0.00	0.03	0.66	0.85	0.81	0.42
TOTAL	**93.72**	**92.63**	**93.17**	**91.86**	**91.21**	**90.89**	**90.92**	**90.53**	**90.70**	**92.98**	**91.22**	**91.22**	**92.11**	**90.45**	**89.05**	**91.88**	**92.97**	**93.44**	**92.18**
Atoms per Unit formula																			
Al	0.35	1.54	0.80	0.95	0.43	1.05	1.49	0.95	0.64	1.94	0.33	0.76	0.40	0.16	0.30	1.15	1.30	1.09	1.36
Mg	0.03	0.22	0.24	0.21	0.00	0.55	0.71	0.52	0.17	0.80	0.14	0.23	0.23	0.06	0.18	0.40	0.33	0.38	0.56
Mn	0.01	0.08	0.06	0.05	0.02	0.06	0.06	0.08	0.06	0.02	0.00	0.06	0.02	0.06	0.19	0.08	0.06	0.06	0.06
V	0.16	0.08	0.04	0.10	0.10	0.15	0.15	0.13	0.18	0.22	0.20	0.18	0.21	0.06	0.19	0.11	0.26	0.15	0.09
Ti	0.21	1.13	0.70	1.01	0.27	1.07	1.15	1.32	1.00	0.88	0.32	0.87	0.44	1.56	4.68	2.00	1.72	1.84	1.85
Zn	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.02
Ni	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
Fe2+	8.41	9.02	8.63	8.95	8.49	8.67	8.58	8.92	9.00	8.26	8.44	8.80	8.44	9.67	12.40	9.69	9.50	9.59	9.40
Fe3+	14.77	11.85	13.59	12.59	14.64	12.49	11.90	12.12	13.00	11.90	14.63	13.14	14.30	12.50	6.07	10.45	10.66	10.75	10.63
Cr	0.11	0.12	0.02	0.18	0.11	0.03	0.02	0.03	0.03	0.04	0.03	0.03	0.03	0.00	0.01	0.16	0.20	0.19	0.10
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.48	9.34	8.94	9.24	8.53	9.29	9.36	9.53	9.23	9.09	8.58	9.10	8.70	9.79	12.79	10.19	9.91	10.03	10.04
Ttriv	15.40	13.59	14.45	13.82	15.28	13.72	13.57	13.22	13.84	14.09	15.19	14.11	14.95	12.72	6.57	11.87	12.42	12.19	12.18
Ttetra	0.21	1.13	0.70	1.01	0.27	1.07	1.15	1.32	1.00	0.88	0.32	0.87	0.44	1.56	4.68	2.00	1.72	1.84	1.85
Tcat	**24.09**	**24.07**	**24.08**	**24.07**	**24.09**	**24.07**	**24.07**	**24.07**	**24.08**	**24.07**	**24.09**	**24.08**	**24.09**	**24.07**	**24.04**	**24.06**	**24.06**	**24.06**	**24.06**
#Fe2+	1.00	0.98	0.97	0.98	1.00	0.94	0.92	0.94	0.98	0.91	0.98	0.97	0.97	0.99	0.99	0.96	0.97	0.96	0.94
#Fe3+	0.97	0.88	0.94	0.92	0.96	0.92	0.89	0.93	0.95	0.86	0.98	0.94	0.97	0.99	0.95	0.89	0.88	0.89	0.88
#Cr	0.25	0.07	0.02	0.16	0.21	0.03	0.01	0.03	0.04	0.02	0.09	0.04	0.07	0.00	0.02	0.12	0.14	0.15	0.07
#Mg	0.00	0.02	0.03	0.02	0.00	0.06	0.08	0.06	0.02	0.09	0.02	0.03	0.03	0.01	0.01	0.04	0.03	0.04	0.06
Usp	36	41	38	40	36	39	39	41	40	37	36	39	36	45	68	46	45	45	45

Table C.7- EPMA results for Fe-Ti Spinel (cont)

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Int						-	-	-	-	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Anort	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Hbl Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I
DESCRIP	Mgt GM (B)	Mgt GM (C)	Mgt GM (C)	Mgt GE (C)	Mgt GM (C)	Mgt GE (C)	Mgt GM (C)	Mgt GM (C)	Mgt GE (C)	Mgt GM (C)	Mgt GM (C)	Mgt GM_inc Cpx (C)	Mgt GM_inc Cpx (B)	Mgt GM (C)	Mgt GM (C)	Mgt GM (C)	Mgt GM (B)	Mgt GM (B2)	Mgt GM (C)
SAMPLE	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-35	ODV-G-39	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D4	ODV-D4	CVD-19A	CVD-19A	CVD-19A	CVD-19A
Label	73 (3_3)	74 (3_4)	76 (5_2)	78 (5_4)	81(7_3)	93 (2_2)	101(1_3)	103 (4_2)	107 (5_2)	108 (3_2)	110 (5_1)	2692 [2-2]	2691[2-1]	2681[1-1]	2683 [2-1]	2709 [5-1]	2710 [5-2]	2711[5-3]	2712 [6-1]
Al2O3	2.58	2.93	3.33	3.04	3.54	0.54	2.99	2.41	2.94	3.20	0.89	2.45	2.19	0.67	0.98	0.81	2.69	0.68	0.74
MgO	0.73	0.70	0.64	1.26	0.43	0.00	0.67	0.54	1.19	1.01	0.25	1.13	1.04	0.40	0.32	0.26	0.37	0.09	0.05
MnO	0.27	0.30	0.32	0.40	0.27	0.19	0.11	0.23	0.20	0.05	0.01	0.23	0.19	0.11	0.17	0.06	0.80	0.08	0.10
V2O3	0.32	0.64	0.28	0.59	0.48	0.53	1.03	0.66	0.59	0.23	0.22	0.68	0.72	0.48	0.31	0.47	0.43	0.51	0.35
TiO2	8.30	8.59	8.83	15.11	7.87	0.19	5.36	6.76	5.66	1.33	0.83	3.50	4.39	1.61	2.54	1.98	5.24	0.67	1.23
ZnO	0.06	0.08	0.06	0.06	0.04	0.00	0.00	0.05	0.00	0.05	0.01								
NiO	0.00	0.00	0.02	0.01	0.00	0.04	0.01	0.06	0.03	0.00	0.00	0.03	0.04			0.05	0.04	0.03	0.04
FeO	80.66	80.76	80.47	72.52	81.23	90.43	82.18	81.88	81.72	89.71	91.02	81.04	82.99	89.18	89.10	88.69	81.17	89.03	89.23
Cr2O3	0.00	0.02	0.00	0.01	0.00	0.98	0.13	0.11	0.06	0.21	0.20	4.56	4.55	0.22	0.08	1.28	1.26	1.15	0.73
TOTAL	**92.91**	**94.02**	**93.96**	**93.01**	**93.87**	**92.91**	**92.48**	**92.71**	**92.37**	**95.80**	**93.44**	**93.62**	**96.12**	**92.67**	**93.51**	**93.60**	**91.98**	**92.24**	**92.47**
Atoms per Unit formula																			
Al	0.93	1.05	1.19	1.10	1.27	0.20	1.08	0.88	1.06	1.11	0.32	0.88	0.77	0.24	0.36	0.29	0.98	0.25	0.27
Mg	0.33	0.32	0.29	0.58	0.19	0.00	0.31	0.25	0.54	0.44	0.11	0.51	0.46	0.18	0.15	0.12	0.17	0.04	0.02
Mn	0.07	0.08	0.08	0.11	0.07	0.05	0.03	0.06	0.05	0.01	0.00	0.06	0.05	0.03	0.04	0.02	0.21	0.02	0.03
V	0.08	0.16	0.07	0.15	0.12	0.13	0.25	0.16	0.14	0.06	0.05	0.17	0.17	0.12	0.08	0.12	0.11	0.13	0.09
Ti	1.92	1.96	2.01	3.49	1.80	0.04	1.24	1.57	1.30	0.29	0.19	0.80	0.98	0.38	0.59	0.46	1.22	0.16	0.29
Zn	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ni	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01
Fe2+	9.70	9.74	9.81	10.93	9.72	8.25	9.11	9.44	8.92	8.08	8.34	8.44	8.67	8.42	8.65	8.56	9.05	8.35	8.49
Fe3+	11.02	10.75	10.59	7.69	10.90	15.16	12.01	11.66	12.03	14.03	15.01	12.12	11.90	14.66	14.21	14.20	12.01	14.85	14.71
Cr	0.00	0.00	0.00	0.00	0.00	0.24	0.03	0.03	0.01	0.05	0.05	1.09	1.07	0.05	0.02	0.31	0.31	0.28	0.18
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	10.11	10.15	10.20	11.62	9.99	8.31	9.45	9.77	9.52	8.54	8.46	9.02	9.19	8.64	8.84	8.71	9.44	8.42	8.55
Ttriv	12.03	11.96	11.85	8.94	12.28	15.73	13.38	12.73	13.25	15.25	15.44	14.26	13.90	15.08	14.66	14.92	13.41	15.51	15.25
Ttetra	1.92	1.96	2.01	3.49	1.80	0.04	1.24	1.57	1.30	0.29	0.19	0.80	0.98	0.38	0.59	0.46	1.22	0.16	0.29
Tcat	**24.07**	**24.06**	**24.06**	**24.05**	**24.06**	**24.09**	**24.07**	**24.07**	**24.07**	**24.08**	**24.09**	**24.07**	**24.07**	**24.09**	**24.08**	**24.08**	**24.07**	**24.09**	**24.09**
#Fe2+	0.97	0.97	0.97	0.95	0.98	1.00	0.97	0.97	0.94	0.95	0.99	0.94	0.95	0.98	0.98	0.99	0.98	1.00	1.00
#Fe3+	0.92	0.91	0.90	0.87	0.90	0.97	0.92	0.93	0.92	0.92	0.98	0.86	0.87	0.98	0.97	0.96	0.90	0.97	0.97
#Cr	0.00	0.00	0.00	0.00	0.00	0.55	0.03	0.03	0.01	0.04	0.13	0.56	0.58	0.18	0.05	0.51	0.24	0.53	0.40
#Mg	0.03	0.03	0.03	0.05	0.02	0.00	0.03	0.03	0.06	0.05	0.01	0.06	0.05	0.02	0.02	0.01	0.02	0.00	0.00
Usp	46	46	47	57	46	34	42	44	41	34	35	37	39	36	38	37	41	35	36

Table C.7- EPMA results for Fe-Ti spinel (cont)

SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Upp	Upp	Upp	Upp	Low	Low	Low	Upp	Upp	Upp	Upp	Upp	Upp	Upp
UNIT	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Px Gb I	Px Gb I	Px Gb I	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog
CLASIF	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Cpxnt	Cpxnt	Cpxnt	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog
DESCRIP	Mgt GM (C)	Mgt in Ilm (C)	Mgt GM (C)	Mgt GM (B)	Mgt GM inc Pl (C)	Mgt GM inc Pl (B)	Mgt GM (C)	Mgt GM (B)	Mgt GM (C)	Mgt GM (C)	Mgt GM (B)	Mgt GE (C)	Mgt GM (B)	Mgt GM (C)	Mgt (C)	Mgt (B)	Mgt GM sulfs ©	Mgt GM sulfs (B)	Mgt GE ©
SAMPLE	CVD-17	CVD-17	CVD-16B	CVD-16B	CVD-20	CVD-20	CVD-20	CVD-20	SN-N3	SN-N3	SN-N3	SB-1A	SB-1A	SB-1A	SB-1A	SB-1A	SB-11	SB-11	SB-11
Label	2703 [6-1]	2706 [4-3]	2699 [6-1]	2700 [6-2]	2716 [1-1]	2717 [1-2]	2719 [2-1]	2720 [2-2]	2723 [2-4]	2725 [3-3]	2726 [3-4]	113 (5_2)	114 (5_3)	115 (5_4)	121(7_2)	120 (7_1)	663 (2_4)	661(2_2)	664 (3_1)
Al2O3	0.35	0.41	0.43	1.84	3.18	3.02	3.41	2.61	3.69	3.48	3.51	3.17	3.68	2.64	3.70	3.59	2.50	1.45	2.47
MgO	0.16	0.31	0.37	0.88	1.34	0.63	0.58	0.34	1.37	0.98	0.96	0.78	0.76	0.71	0.76	0.89	0.78	0.50	1.10
MnO	0.00	0.00	0.01	0.07	0.17	0.14	0.21	0.28	0.28	0.24	0.27	0.16	0.24	0.21	0.24	0.17	0.13	0.12	0.27
V2O3	0.83	0.92	1.73	1.54	0.55	0.78	0.82	0.83	0.98	1.26	1.27	1.03	0.87	1.01	0.95	1.11	1.09	1.20	0.81
TiO2	0.48	0.44	0.29	1.93	8.77	4.36	4.98	5.31	8.60	7.73	7.74	4.13	6.34	6.52	6.35	5.55	4.47	5.08	7.49
ZnO												0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.03
NiO	0.02	0.00	0.03	0.00	0.00	0.03	0.02	0.04	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.05	0.03	0.01	0.00
FeO	93.41	91.49	89.36	83.41	80.63	83.66	83.54	83.39	79.01	78.10	79.06	84.70	82.33	81.51	79.41	80.66	84.42	85.25	82.37
Cr2O3	0.35	0.40	0.01	0.01	0.94	0.92	0.97	0.97	0.76	1.03	0.99	0.03	0.02	0.06	0.08	0.03	0.07	0.04	0.04
TOTAL	**95.60**	**93.96**	**92.22**	**89.67**	**95.58**	**93.53**	**94.54**	**93.77**	**94.69**	**92.82**	**93.82**	**94.00**	**94.23**	**92.66**	**91.48**	**92.05**	**93.52**	**93.65**	**94.59**
Atoms per Unit formula																			
Al	0.12	0.15	0.16	0.69	1.11	1.08	1.21	0.94	1.30	1.25	1.25	1.13	1.30	0.96	1.35	1.30	0.90	0.52	0.88
Mg	0.07	0.14	0.17	0.42	0.59	0.29	0.26	0.16	0.61	0.45	0.43	0.35	0.34	0.32	0.35	0.41	0.35	0.23	0.50
Mn	0.00	0.00	0.00	0.02	0.04	0.04	0.05	0.07	0.07	0.06	0.07	0.04	0.06	0.05	0.06	0.05	0.03	0.03	0.07
V	0.20	0.22	0.43	0.39	0.13	0.19	0.20	0.20	0.24	0.31	0.31	0.25	0.21	0.25	0.24	0.27	0.27	0.29	0.20
Ti	0.11	0.10	0.07	0.46	1.96	1.00	1.12	1.22	1.93	1.78	1.76	0.94	1.43	1.51	1.48	1.28	1.02	1.17	1.69
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Ni	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Fe2+	8.30	8.23	8.16	8.27	9.51	8.89	9.02	9.20	9.43	9.46	9.44	8.77	9.24	9.34	9.26	9.03	8.85	9.14	9.33
Fe3+	15.19	15.15	15.09	13.84	10.50	12.37	11.97	12.05	10.30	10.51	10.56	12.59	11.48	11.63	11.30	11.71	12.62	12.68	11.40
Cr	0.08	0.10	0.00	0.00	0.22	0.22	0.23	0.23	0.18	0.25	0.24	0.01	0.00	0.02	0.02	0.01	0.02	0.01	0.01
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	8.38	8.37	8.34	8.71	10.14	9.22	9.34	9.43	10.11	9.96	9.95	9.16	9.64	9.72	9.68	9.49	9.25	9.40	9.90
Ttriv	15.60	15.62	15.68	14.92	11.96	13.86	13.61	13.42	12.02	12.32	12.35	13.98	13.00	12.85	12.91	13.30	13.80	13.51	12.48
Ttetra	0.11	0.10	0.07	0.46	1.96	1.00	1.12	1.22	1.93	1.78	1.76	0.94	1.43	1.51	1.48	1.28	1.02	1.17	1.69
Tcat	**24.09**	**24.09**	**24.09**	**24.08**	**24.06**	**24.07**	**24.07**	**24.07**	**24.06**	**24.06**	**24.06**	**24.07**	**24.07**	**24.07**	**24.07**	**24.07**	**24.08**	**24.08**	**24.07**
#Fe2+	0.99	0.98	0.98	0.95	0.94	0.97	0.97	0.98	0.94	0.95	0.96	0.96	0.96	0.97	0.96	0.96	0.96	0.98	0.95
#Fe3+	0.99	0.98	0.99	0.95	0.89	0.90	0.89	0.91	0.87	0.87	0.88	0.92	0.90	0.92	0.89	0.90	0.93	0.96	0.93
#Cr	0.40	0.40	0.01	0.00	0.17	0.17	0.16	0.20	0.12	0.17	0.16	0.01	0.00	0.02	0.01	0.01	0.02	0.02	0.01
#Mg	0.01	0.02	0.02	0.05	0.06	0.03	0.03	0.02	0.06	0.05	0.04	0.04	0.04	0.03	0.04	0.04	0.04	0.02	0.05
Usp	35	34	34	36	45	40	41	42	45	45	45	39	43	43	43	41	40	41	44

Table C.7- EPMA results for Fe-Ti Spinel (cont)

SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	ODV I
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Px Gb I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Amph Gb
CLASIF	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Cpxnt-Type III Min	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Hbl Gb
DESCRIP	Mgt GE (B)	Mgt ©	Mgt (B)	Mgt ©	Mgt (B)	Mgt GE (C)	Mgt GE (C)	Mgt GE Pleon ©	Mgt GE (C)	Mgt GE Pleon ©	Mgt GE (B)	Mgt GM ©	Cr-Mgt GM inc Sulf (B)	Mgt GM (C)	Mgt GM (B)	Mgt GE Pleon (C)	Mgt GE Pleon (B)	Mgt GE Pleon (C)	Mgt GE Pleon (B)	Mgt GM (C)	Mgt GM (C)	Mgt GM (C)
SAMPLE	SB-11	SB-11	SB-11	SB-19	SB-19	SB-19	SB-19	SB-19	SB-19	SB-19	SB-19	SB-19	FG-6-A1	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	FG-5	ODV-D1
Label	665 (3_2)	667 (7_1)	668 (7_2)	669 (3_1)	670 (3_2)	671(5_1)	672 (5_2)	672A (5_3)	674 (6_2)	674A (6_2A)	675 (6_3)	676 (6_4)	727(2_1)	2594 [1-3]	2595 [1-4]	2596 [2-1]	2597 [2-2]	2600 [3-1]	2601[3-2]	2603 [4-1]	2604 [4-2]	2588 [3-1]
Al2O3	2.41	2.72	2.21	2.98	3.19	3.20	3.10	1.63	1.55	5.09	3.97	3.83	1.63	3.65	3.88	1.96	3.51	3.87	3.78	2.94	3.74	0.15
MgO	0.98	1.17	0.94	0.80	0.90	1.21	1.09	0.67	0.53	1.52	1.10	0.93	0.47	0.98	1.00	0.69	0.91	1.10	1.76	1.03	1.12	0.00
MnO	0.15	0.20	0.14	0.26	0.34	0.31	0.29	0.16	0.24	0.17	0.22	0.26	0.26	0.14	0.17	0.16	0.22	0.15	0.25	0.38		0.00
V2O3	0.86	0.84	0.89	0.79	1.20	0.61	0.57	0.90	0.58	0.63	0.60	0.68	0.63	0.69	1.06	1.14	0.99	0.96	0.75	1.04	1.06	1.03
TiO2	7.01	6.46	5.32	7.16	7.14	8.34	8.82	5.12	6.52	6.26	7.33	7.05	3.96	4.48	5.13	4.82	6.32	5.13	10.59	6.67	6.87	1.29
ZnO	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.04									
NiO	0.04	0.01	0.00	0.02	0.04	0.00	0.01	0.00	0.03	0.02	0.00	0.02	0.01									
FeO	82.16	83.01	84.58	80.95	81.13	80.11	80.36	85.22	84.63	79.88	80.48	81.51	84.18	81.34	81.16	84.13	79.56	81.05	78.02	79.65	77.98	90.19
Cr2O3	0.03	0.00	0.04	0.14	0.16	0.05	0.05	0.12	0.10	0.08	0.09	0.13	3.30	0.18	0.15	0.14	0.09	0.13	0.15	0.08	0.08	0.00
TOTAL	93.66	94.42	94.15	93.11	94.10	93.83	94.29	93.83	94.18	93.67	93.79	94.44	94.50	91.46	92.54	93.05	91.60	92.39	95.30	91.78	90.86	92.66
Atoms per Unit formula																						
Al	0.86	0.96	0.79	1.07	1.14	1.14	1.10	0.59	0.56	1.79	1.41	1.35	0.58	1.33	1.39	0.71	1.28	1.39	1.32	1.07	1.37	0.05
Mg	0.45	0.52	0.42	0.36	0.41	0.55	0.49	0.30	0.24	0.68	0.49	0.42	0.21	0.45	0.45	0.32	0.42	0.50	0.78	0.47	0.52	0.00
Mn	0.04	0.05	0.04	0.07	0.09	0.08	0.07	0.04	0.06	0.04	0.06	0.07	0.07	0.04	0.04	0.04	0.06	0.04	0.06	0.10	0.00	0.00
V	0.21	0.20	0.22	0.19	0.29	0.15	0.14	0.22	0.14	0.15	0.15	0.16	0.15	0.17	0.26	0.28	0.25	0.24	0.18	0.26	0.26	0.26
Ti	1.60	1.46	1.21	1.65	1.62	1.90	2.00	1.17	1.49	1.41	1.66	1.59	0.90	1.04	1.18	1.11	1.47	1.18	2.36	1.55	1.61	0.30
Zn	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ni	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	9.31	9.09	8.97	9.41	9.32	9.46	9.62	9.05	9.40	8.88	9.30	9.30	8.83	8.77	8.89	8.98	9.19	8.85	9.69	9.18	9.29	8.57
Fe3+	11.58	11.77	12.42	11.27	11.16	10.78	10.63	12.67	12.15	11.09	10.97	11.14	12.52	12.23	11.81	12.60	11.38	11.84	9.64	11.41	11.00	14.91
Cr	0.01	0.00	0.01	0.03	0.04	0.01	0.01	0.03	0.02	0.02	0.02	0.03	0.79	0.04	0.04	0.04	0.02	0.03	0.04	0.02	0.02	0.00
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	9.81	9.67	9.43	9.85	9.82	10.09	10.19	9.40	9.71	9.60	9.86	9.79	9.13	9.26	9.39	9.34	9.67	9.39	10.53	9.76	9.80	8.57
Ttriv	12.66	12.94	13.43	12.57	12.62	12.08	11.88	13.50	12.87	13.06	12.55	12.69	14.04	13.78	13.50	13.63	12.92	13.50	11.17	12.76	12.65	15.22
Ttetra	1.60	1.46	1.21	1.65	1.62	1.90	2.00	1.17	1.49	1.41	1.66	1.59	0.90	1.04	1.18	1.11	1.47	1.18	2.36	1.55	1.61	0.30
Tcat	24.07	24.07	24.07	24.07	24.07	24.06	24.06	24.08	24.07	24.07	24.07	24.07	24.07	24.07	24.07	24.08	24.07	24.07	24.06	24.07	24.07	24.09
#Fe2+	0.95	0.95	0.95	0.96	0.96	0.95	0.95	0.97	0.97	0.93	0.95	0.96	0.98	0.95	0.95	0.97	0.96	0.95	0.93	0.95	0.95	1.00
#Fe3+	0.93	0.92	0.94	0.91	0.90	0.90	0.91	0.95	0.95	0.86	0.88	0.89	0.90	0.90	0.89	0.94	0.90	0.89	0.88	0.91	0.89	1.00
#Cr	0.01	0.00	0.01	0.03	0.03	0.01	0.01	0.05	0.04	0.01	0.01	0.02	0.58	0.03	0.03	0.05	0.02	0.02	0.03	0.02	0.01	0.00
#Mg	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.03	0.03	0.07	0.05	0.04	0.02	0.05	0.05	0.03	0.04	0.05	0.07	0.05	0.05	0.00
Usp	43	42	41	44	44	45	46	41	43	41	44	43	39	39	40	41	43	40	48	43	43	36

Table C.7A- EPMA results for Fe-Ti Spinel-Pleonaste

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV II	BRG I	BRG II	BRG II
GROUP	Low	Low	Low	Low	Low	Upp	Low	Low		Upp	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog I	Oxd Ol Leucog	Ol Leucog I	Ol Leucog I
CLASIF	Wehrl	Wehrl	Wehrl	Wehrl	Ol Melanog	Ol Leucog	Ol Leucog	Troct	Troct	Oxd Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Pleon Mgt GM (E)	Pleon Mgt GM ©	Pleon Mgt GM (B)	Pleon Mgt GM (B)	Mgt GM (B)	Ilm (E)	Ilm (E)	Mgt GE (B)	Pleon_Mgt _Sulfs (E)	Mgt_Pleon GE (E)	Pleon Mgt (E)	Pleon Mgt (E)
SAMPLE	ODV-G-4A1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-2	ODV-G-35	ODV-G-25	ODV-G-3	ODV-G-PO	SB-11	FG-5	FG-5
Label	3 (4_3)	M 36 (1_2)	M 35 (1_1)	M 53 (6_3)	M 26 (7_2)	77 (5_3)	28 (3_3)	M 114 (10_2)	96 (3_1)	666(3_3)	2598 [2-3]	2599 [2-4]
Al2O3	16.59	7.29	9.68	7.39	7.15	6.09	4.55	1.06	20.88	7.12	62.27	62.78
MgO	4.17	2.29	2.81	2.13	1.94	3.72	5.00	0.33	8.94	5.08	13.02	13.60
MnO	0.49	0.39	0.08	0.24	0.25	0.53	1.12	1.66	3.29	0.55	0.08	0.11
V2O3	0.91	1.37	1.40	1.46	1.28	2.19	2.04	2.01	1.18	1.36	0.12	0.14
TiO2	9.74	12.91	3.41	7.72	9.46	34.37	49.14	28.39	35.23	35.07	1.78	1.46
ZnO	0.83	0.21	0.29	0.26	0.07	0.28	0.01	0.46	0.43	0.09		
NiO	0.00	0.04	0.00	0.00	0.00	0.03	0.01	0.03	0.01	0.00		
FeO	66.20	70.32	80.01	73.00	77.30	49.41	37.21	59.96	30.30	47.05	18.27	12.98
Cr2O3	0.20	0.10	0.08	0.08	0.07	0.03	0.01	0.05	0.33	0.01	0.12	0.13
TOTAL	99.14	94.92	97.74	92.28	97.53	96.65	99.10	93.96	100.59	96.33	95.65	91.21
Atoms per Unit formula												
Al	5.20	2.51	3.17	2.61	2.40	1.93	1.13	0.39	5.20	2.20	15.52	15.70
Mg	1.65	1.00	1.16	0.95	0.82	1.49	1.57	0.16	2.81	1.99	4.11	4.30
Mn	0.11	0.10	0.02	0.06	0.06	0.12	0.20	0.44	0.59	0.12	0.01	0.02
V	0.19	0.32	0.31	0.35	0.29	0.47	0.34	0.50	0.20	0.29	0.02	0.02
Ti	1.95	2.84	0.71	1.74	2.03	6.94	7.76	6.69	5.59	6.92	0.28	0.23
Zn	0.16	0.04	0.06	0.06	0.01	0.06	0.00	0.11	0.07	0.02	0.00	0.00
Ni	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Fe2+	8.14	9.82	7.67	8.84	9.29	12.84	12.50	14.00	9.17	12.30	3.98	3.59
Fe3+	6.59	7.38	10.94	9.44	9.13	0.00	0.00	1.70	0.00	0.00	0.00	0.00
Cr	0.04	0.02	0.02	0.02	0.02	0.01	0.00	0.01	0.06	0.00	0.02	0.02
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	10.07	10.97	8.91	9.91	10.19	14.51		14.72	12.64	14.43	8.10	7.91
Ttriv	12.03	10.23	14.44	12.41	11.84	2.41	14.27	2.61	5.45	2.49	15.56	15.75
Ttetra	1.95	2.84	0.71	1.74	2.03	6.94	1.47	6.69	5.59	6.92	0.28	0.23
Tcat	24.04	24.04	24.07	24.06	24.05	23.85	7.76	24.01	23.68	23.84	23.94	23.89
#Fe2+	0.83	0.91	0.87	0.90	0.92	0.90		0.99	0.77	0.86	0.49	0.45
#Fe3+	0.56	0.74	0.77	0.78	0.79	0.00		0.81	0.00	0.00	0.00	0.00
#Cr	0.01	0.01	0.01	0.01	0.01	0.00		0.03	0.01	0.00	0.00	0.00
#Mg	0.17	0.09	0.13	0.10	0.08	0.10		6.84	0.23	0.14	0.51	0.55
Usp	39.50	49.70	34	42	45	80		0.60	57	77	17	16

Table C.7B- EPMA results for Fe-Ti Spinel included in Type I mineralisation

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min
DESCRIP	B-Spl (N)	B-Spl (B)	B-Spl (N)	B-Spl (B)	B-Spl (N)	B-Spl (N)	B-Spl (N)	B-Spl (B)	B-Spl (B)	B-Spl (N)	B-Spl (N)	A-Spl (N)	A-Spl (N)	A-Spl (B)	A-Spl (N)	A-Spl (B)	A-Spl (B)	A-Spl (N)	A-Spl (B)	A-Spl (N)	A-Spl (B)	A-Spl (N)	A-Spl (N)	A-Spl (N)
SAMPLE	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-4	ODV-5-4	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A2	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-A1	ODV-5-4	ODV-5-4
Label	72	73	76	77	156	160	163	166	169	173	178	70	74	75	80	83	86	161	162	165	167	170	171	172
Al2O3	0.22	0.58	0.76	0.40	1.45	0.37	1.33	0.90	0.12	1.10	2.37	0.67	0.69	0.91	0.59	0.59	0.57	3.77	3.91	3.32	3.64	1.45	0.63	0.59
MgO	0.01	0.05	0.02	0.03	0.13	0.01	0.01	0.08	0.03	0.05	0.07	0.08	0.10	0.05	0.02	0.06	0.00	2.13	2.11	1.59	1.95	0.70	0.12	0.06
MnO	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.39	0.32	0.46	0.17	0.00	0.00
V2O3	1.26	1.45	2.71	1.84	0.18	0.01	0.02	0.01	0.05	1.20	1.68	1.41	0.73	1.33	1.35	1.50	1.26	1.52	1.42	1.48	1.42	1.52	0.90	1.21
TiO2	0.00	0.50	0.03	0.28	0.05	0.08	0.09	0.01	0.01	0.14	0.76	14.74	5.59	9.11	12.91	17.47	14.36	14.80	14.56	12.51	15.28	11.74	11.09	20.17
ZnO	0.03	0.03	0.00	0.02	0.01	0.00	0.02	0.02	0.09	0.00	0.04	0.00	0.03	0.06	0.01	0.01	0.02	0.09	0.10	0.03	0.08	0.08	0.00	0.00
NiO	0.00	0.03	0.00	0.00	0.19	0.14	0.05	0.11	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00
FeO	83.95	80.72	77.87	80.02	77.90	84.76	88.83	84.81	90.06	80.03	80.03	70.77	78.80	74.03	71.23	68.00	70.22	70.95	70.08	73.56	69.93	76.46	76.47	68.03
Cr2O3	0.04	0.06	0.09	0.04	0.03	0.00	0.00	0.01	0.00	0.01	0.09	0.09	0.03	0.10	0.09	0.09	0.08	0.10	0.07	0.10	0.09	0.10	0.02	0.03
TOTAL	**85.53**	**83.47**	**81.54**	**82.63**	**79.94**	**85.37**	**90.35**	**85.94**	**90.36**	**82.54**	**85.06**	**87.76**	**85.98**	**85.60**	**86.19**	**87.72**	**86.52**	**93.77**	**92.65**	**92.92**	**92.85**	**92.21**	**89.23**	**90.09**
Atoms per Formula Unit																								
Al	0.08	0.21	0.28	0.15	0.54	0.13	0.44	0.31	0.04	0.40	0.83	0.22	0.24	0.31	0.20	0.20	0.19	1.15	1.21	1.03	1.12	0.46	0.21	0.19
Mg	0.01	0.02	0.01	0.01	0.06	0.00	0.01	0.03	0.01	0.02	0.03	0.03	0.04	0.02	0.01	0.03	0.00	0.82	0.82	0.63	0.76	0.28	0.05	0.02
Mn	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.07	0.10	0.04	0.00	0.00
V	0.30	0.35	0.68	0.45	0.04	0.00	0.00	0.00	0.01	0.30	0.40	0.32	0.17	0.31	0.31	0.33	0.29	0.32	0.30	0.31	0.30	0.33	0.20	0.26
Ti	0.00	0.12	0.01	0.06	0.01	0.02	0.02	0.00	0.00	0.03	0.17	3.11	1.23	1.99	2.78	3.67	3.08	2.88	2.87	2.48	3.01	2.37	2.32	4.10
Zn	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.02	0.02	0.00	0.00
Ni	0.00	0.01	0.00	0.00	0.05	0.03	0.01	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe3+	20.93	20.57	20.33	20.63	20.65	21.15	20.85	20.97	21.26	20.58	19.83	16.61	19.25	18.01	17.09	15.87	16.73	15.38	15.36	16.20	15.30	17.15	17.79	15.39
Cr	0.01	0.01	0.02	0.01	0.01			0.00		0.00	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.00	0.01
O	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Tdiv	0.01	0.05	0.02	0.02	0.11	0.04	0.02	0.06	0.03	0.02	0.05	0.03	0.05	0.03	0.01	0.03	0.01	0.93	0.93	0.70	0.88	0.33	0.05	0.02
Ttriv	21.32	21.15	21.31	21.24	21.24	21.28	21.29	21.29	21.31	21.27	21.08	17.16	19.66	18.65	17.61	16.42	17.23	16.87	16.89	17.56	16.74	17.95	18.21	15.85
Ttetra	0.00	0.12	0.01	0.06	0.01	0.02	0.02	0.00	0.00	0.03	0.17	3.11	1.23	1.99	2.78	3.67	3.08	2.88	2.87	2.48	3.01	2.37	2.32	4.10
Tcat	**21.34**	**21.31**	**21.34**	**21.32**	**21.37**	**21.34**	**21.33**	**21.35**	**21.34**	**21.33**	**21.29**	**20.31**	**20.94**	**20.68**	**20.41**	**20.12**	**20.31**	**20.68**	**20.69**	**20.74**	**20.62**	**20.66**	**20.58**	**19.97**
Vacancies	2.66	2.69	2.66	2.68	2.63	2.66	2.67	2.65	2.66	2.67	2.71	3.69	3.06	3.32	3.59	3.88	3.69	3.32	3.31	3.26	3.38	3.34	3.42	4.03

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Table C.8- EPMA results for ilmenite.

SERIES	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I	SB I
GROUP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UNIT	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Ol Gb	Ol Gb	Troct	Troct	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ilm_inc_Pl (C)	Ilm_inc_Pl (B)	Ilm_inc_Pl (C)	Ilm_inc_Pl (B)	Ilm_inc_Ol (C)	IlmGrM (C)	Ilm_inc_Ol (C)	Ilm_inc_Ol (C)	Ilm_inc_Pl (C)	Ilm GM (B)	Ilm GM (C)	Ilm w Xenom Mgt (C)	Ilm w Xenom Mgt (B)	Ilm (C)	Ilm (B)	Ilm inc Rtl (C)	Ilm inc Rtl (B)	Ilm inc Rtl (B)	Ilm GM (C)	Ilm GM (B)
SAMPLE	**RS-9**	**RS-9**	**RS-10**	**RS-10**	**RS-15**	**RS-17**	**RS-17**	**RS-17**	**RS-17**	**RS-2**	**RS-2**	**RS-1A**	**RS-1A**	**RS-1A**	**RS-1A**	**RS-1B**	**RS-1B**	**RS-1B**	**RS-3**	**RS-3**
Label	141(2_2)	140 (2_1)	175 (1_1)	176 (1_2)	2672 [3-1]	2635 [1-3]	2637 [2-1]	2638 [2-2]	2639 [3-1]	160 (1_2)	161(1_3)	123 (6_2)	122 (6_1)	125 (7_2)	124 (7_1)	126 (7_1)	128 (7_3)	129 (7_4)	2662 [2A-1]	2663 [2A-2]
SiO2	0.27	0.28	0.26	0.28	0.40	0.35	0.31	0.27	0.39	0.26	0.34	0.23	0.23	0.27	0.25	0.21	0.16	0.25	0.39	0.34
TiO2	53.28	53.44	49.63	48.82	50.45	49.35	48.58	47.16	47.04	48.62	48.88	48.86	47.07	47.28	47.07	50.05	50.73	51.06	50.23	50.18
Al2O3	0.02	0.01	0.04	0.04	0.00	0.03	0.04	0.00	0.03	0.00	0.00	0.01	0.02	0.04	0.03	0.01	0.00	0.00	0.08	0.01
V2O3	3.69	3.11	1.71	3.07	2.81	1.73	2.03	1.68	1.88	1.61	2.51	2.25	2.18	2.28	2.28	2.66	2.72	2.76	2.09	1.75
Cr2O3	0.24	0.25	0.06	0.05	0.30	0.02	0.05	0.00	0.20	0.37	0.36	0.06	0.02	0.06	0.05	0.12	0.08	0.13	0.01	0.01
MgO	7.45	7.75	4.07	4.01	4.04	2.63	2.83	2.32	1.64	0.51	0.52	0.05	0.10	0.21	0.20	0.37	0.44	0.53	3.71	3.90
CaO	0.00	0.02	0.00	0.01						0.02	0.00	0.10	0.15	0.00	0.00	0.00	0.00	0.02		
MnO	0.23	0.11	0.56	0.83	0.51	0.89	0.52	0.74	0.46	1.56	1.85	1.18	1.14	1.01	1.03	2.25	2.17	2.26	0.39	0.39
FeO	34.22	33.36	43.54	42.97	41.83	43.13	43.79	45.32	46.72	45.75	44.69	45.20	46.61	46.64	46.66	42.41	43.42	42.63	43.89	42.54
NiO	0.09	0.01	0.04	0.03						0.02	0.02	0.00	0.00	0.00	0.03	0.05	0.00	0.04		
ZnO	0.00	0.01	0.02	0.04						0.00	0.04	0.02	0.01	0.01	0.00	0.03	0.04	0.00		
Na2O	0.00	0.00	0.00	0.00						0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total	**99.48**	**98.36**	**99.94**	**100.15**	**100.33**	**98.13**	**98.16**	**97.49**	**98.36**	**98.73**	**99.22**	**97.98**	**97.53**	**97.80**	**97.60**	**98.17**	**99.77**	**99.67**	**100.79**	**99.13**
Atoms per unit formula																				
Si	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Ti	1.92	1.94	1.82	1.79	1.85	1.86	1.83	1.79	1.78	1.86	1.86	1.89	1.82	1.83	1.82	1.93	1.92	1.93	1.83	1.86
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.14	0.12	0.07	0.12	0.11	0.07	0.08	0.07	0.08	0.07	0.10	0.09	0.09	0.09	0.09	0.11	0.11	0.11	0.08	0.07
Cr	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Mg	0.53	0.56	0.30	0.29	0.29	0.20	0.21	0.18	0.12	0.04	0.04	0.00	0.01	0.02	0.02	0.03	0.03	0.04	0.27	0.29
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.01	0.00	0.02	0.03	0.02	0.04	0.02	0.03	0.02	0.07	0.08	0.05	0.05	0.04	0.05	0.10	0.09	0.10	0.02	0.02
Fe 2+	1.37	1.34	1.51	1.47	1.55	1.65	1.61	1.60	1.66	1.76	1.75	1.84	1.77	1.78	1.77	1.81	1.80	1.79	1.57	1.57
Fe 3+	0.00	0.00	0.26	0.28	0.15	0.16	0.22	0.32	0.31	0.18	0.13	0.10	0.24	0.22	0.23	0.01	0.03	0.00	0.21	0.18
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**3.99**	**3.99**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**
Hem (%)	**0.00**	**0.00**	**6.74**	**7.16**	**3.88**	**4.18**	**5.68**	**8.08**	**7.94**	**4.61**	**3.48**	**2.66**	**6.15**	**5.73**	**6.03**	**0.18**	**0.68**	**0.00**	**5.44**	**4.56**
Pirof (%)	0.48	0.22	1.18	1.77	1.09	1.93	1.13	1.62	1.00	3.43	4.11	2.64	2.56	2.26	2.32	5.05	4.78	4.99	0.82	0.84
Geiq (%)	27.77	28.99	15.11	15.07	15.16	10.06	10.83	8.94	6.34	1.99	2.01	0.19	0.41	0.82	0.78	1.47	1.71	2.05	13.75	14.61
Ilm (%)	71.75	70.79	76.96	76.01	79.87	83.83	82.36	81.37	84.72	89.96	90.40	94.51	90.89	91.18	90.88	93.30	92.83	92.96	79.99	79.99

Table C.8- EPMA results for ilmenite (cont)

SERIES	SB I	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	SB II	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	-										Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Ol Leucog	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Gbnor	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Wehrl	Ol Melanog
DESCRIP	Ilm GM (C) rep	Ilm (E)	Ilm (C)	Ilm (B)	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)	Ilm GM (B)	Ilm (C)	Ilm (B)	Ilm GM ©	Ilm GM (B)	Ilm GM (B)	Ilm GM ©	Ilm GM (B)	Ilm GM (B)
SAMPLE	RS-3	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	RS-11	ODV-G-4A1	ODV-G-4A1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-1	ODV-G-2
Label	2662 [2A-1]rep	154 (6_3)	165 (3_2A)	166 (3_1A)	156 (7_2)	155 (7_1)	2654 [1A-3]	2655 [1A-4]	2658 [2A-3]	2659 [2A-4]	5 (1_2)	4 (1_1)	M38 (2_2)	M37 (2_1)	M42 (3_4)	M39 (3_1)	M43 (4_1)	M50 (5_4)	M58 (8_2)	M1(1_1)
SiO2	0.46	0.16	0.26	0.29	0.19	0.22	0.31	0.32	0.33	0.37	0.31	0.23	0.13	0.12	0.12	0.09	0.11	0.12	0.08	0.13
TiO2	50.50	48.24	44.53	44.95	44.33	44.49	47.01	47.72	48.42	49.30	50.79	50.11	51.08	51.44	50.74	51.69	51.83	50.69	51.55	49.64
Al2O3	0.03	0.04	0.10	0.05	0.06	0.12	0.07	0.06	0.03	0.03	0.01	0.04	0.03	0.06	0.04	0.04	0.04	0.04	0.01	0.06
V2O3	2.06	0.91	1.87	2.58	2.58	2.37	1.32	1.25	1.25	1.36	2.92	1.55	2.15	2.36	2.28	2.24	2.25	2.29	2.44	2.01
Cr2O3	0.08	0.09	0.13	0.15	0.07	0.06	0.12	0.09	0.07	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
MgO	3.67	0.74	1.86	1.77	1.99	1.52	1.97	2.04	1.17	0.25	2.26	2.29	2.70	2.89	2.35	2.82	2.99	2.61	2.11	2.37
CaO		0.00	0.00	0.00	0.00	0.00							0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
MnO	0.40	0.83	0.42	0.43	0.43	0.50	0.50	0.52	0.78	0.86	0.74	0.68	0.79	0.76	0.84	0.81	0.83	0.73	0.94	0.63
FeO	43.78	46.61	49.09	48.21	48.06	48.56	47.95	47.58	47.88	47.14	42.31	42.78	43.88	43.35	42.85	43.05	42.24	41.79	42.51	43.58
NiO		0.00	0.06	0.01	0.03	0.00					0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
ZnO		0.01	0.00	0.03	0.04	0.00					0.01	0.00	0.01	0.01	0.02	0.00	0.00	0.06	0.00	0.00
Na2O		0.00	0.03	0.00	0.04	0.00					0.00	0.00	0.00	0.00	0.10	0.07	0.00	0.00	0.01	0.02
Total	100.97	97.64	98.35	98.49	97.81	97.84	99.24	99.58	99.93	99.38	99.39	97.73	100.78	100.99	99.35	100.82	100.29	98.33	99.66	98.44
Atoms per unit formula																				
Si	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01
Ti	1.84	1.86	1.68	1.70	1.68	1.69	1.76	1.78	1.81	1.87	1.90	1.91	1.88	1.89	1.90	1.90	1.92	1.92	1.93	1.87
Al	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.08	0.04	0.08	0.10	0.10	0.10	0.05	0.05	0.05	0.05	0.12	0.06	0.08	0.09	0.09	0.09	0.09	0.09	0.10	0.08
Cr	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.26	0.06	0.14	0.13	0.15	0.11	0.15	0.15	0.09	0.02	0.17	0.17	0.20	0.21	0.17	0.21	0.22	0.20	0.16	0.18
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.02	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03	0.04	0.03
Fe 2+	1.58	1.77	1.53	1.56	1.51	1.57	1.61	1.62	1.71	1.84	1.72	1.72	1.66	1.65	1.67	1.65	1.67	1.69	1.74	1.67
Fe 3+	0.19	0.22	0.53	0.47	0.51	0.49	0.39	0.35	0.28	0.16	0.04	0.09	0.14	0.12	0.11	0.11	0.07	0.06	0.03	0.16
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Hem (%)	4.95	5.64	13.61	12.01	13.24	12.53	9.88	8.92	7.21	3.96	1.12	2.42	3.56	2.99	2.78	2.73	1.74	1.62	0.84	3.99
Pirof (%)	0.85	1.82	0.91	0.95	0.94	1.09	1.08	1.11	1.68	1.87	1.61	1.50	1.68	1.60	1.82	1.72	1.77	1.59	2.03	1.38
Geiq (%)	13.61	2.87	7.12	6.85	7.71	5.92	7.44	7.69	4.42	0.97	8.70	8.80	10.10	10.77	8.97	10.55	11.20	10.02	8.04	9.06
Ilm (%)	80.59	89.68	78.35	80.18	78.11	80.45	81.60	82.28	86.69	93.20	88.57	87.29	84.66	84.64	86.43	84.99	85.29	86.77	89.10	85.57

Table C.8- EPMA results for ilmenite (cont)

SERIES	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Ol Leucog
CLASIF	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol Melanog	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Ol_Opx Gb	Troct
DESCRIP	Ilm GM (B)	Ilm GM (B)	Ilm GM ©	Ilm GM (B)	Ilm GM (B)	Ilm GM ©	Ilm GM (B)	Ilm GM ©	Ilm GM (B)	Ilm GM (B)	Ilm GM ©	Ilm GM (B)	Ilm GM ©	Ilm GM ©	Ilm GM (B)	Ilm (C)	Ilm (B)	Ilm GM (C)	Ilm GM (C)	Ilm ©
SAMPLE	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-2	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-36	ODV-G-3
Label	M2 (1_2)	M3 (1_3)	M7 (3_4)	M5 (3_2)	M6 (3_3)	M14 (6_7)	M13 (6_6)	M17 (4_3)	M18 (4_4)	M19 (2_1)	M22 (5_2)	M23 (5_3)	M24 (5_4)	M27 (7_3)	M28 (8_1)	33 (6_2)	32 (6_1)	35 (7_2)	36 (7_3)	M90 (6_1)
SiO2	0.08	0.06	0.13	0.10	0.48	0.12	0.13	0.08	0.13	0.11	0.11	0.12	0.10	0.09	0.10	0.31	0.37	0.17	0.24	0.11
TiO2	50.51	49.76	50.95	49.68	50.34	51.29	51.54	51.02	50.76	50.85	50.54	49.69	50.40	50.71	51.42	47.08	50.88	52.16	51.91	48.31
Al2O3	0.05	0.04	0.08	0.05	0.06	0.00	0.02	0.03	0.02	0.01	0.04	0.05	0.05	0.05	0.03	0.29	0.01	0.02	0.00	0.00
V2O3	2.02	2.06	2.07	2.01	1.97	2.17	2.15	2.24	2.17	2.14	2.32	2.10	2.13	2.29	2.15	2.64	2.96	3.27	3.10	2.13
Cr2O3	0.01	0.01	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.03
MgO	2.02	2.31	2.49	2.45	2.50	2.41	2.81	2.61	2.38	2.49	2.53	2.11	2.13	2.57	2.80	2.05	1.94	2.52	2.51	0.05
CaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					0.00
MnO	0.76	0.61	0.72	0.64	0.72	0.67	0.69	0.68	0.71	0.69	0.59	0.66	0.69	0.64	0.71	0.70	0.75	0.70	0.74	1.38
FeO	43.12	44.45	42.61	43.60	42.98	41.75	42.06	43.82	44.82	43.58	44.28	44.93	44.15	44.48	43.57	45.41	42.62	42.20	41.36	46.41
NiO	0.01	0.00	0.00	0.00	0.00	0.05	0.00	0.01	0.02	0.02	0.01	0.01	0.00	0.37	0.00	0.00	0.01	0.00	0.00	0.00
ZnO	0.02	0.01	0.00	0.00	0.00	0.06	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.01	0.01	0.00
Na2O	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.03
Total	**98.59**	**99.31**	**99.06**	**98.52**	**99.07**	**98.54**	**99.42**	**100.54**	**101.01**	**99.89**	**100.43**	**99.68**	**99.66**	**101.22**	**100.80**	**98.53**	**99.54**	**101.07**	**99.87**	**98.44**
Atoms per unit formula																				
Si	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01
Ti	1.91	1.86	1.91	1.87	1.89	1.94	1.92	1.88	1.87	1.89	1.87	1.86	1.88	1.86	1.89	1.77	1.91	1.92	1.93	1.86
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
V	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.08	0.09	0.08	0.08	0.09	0.08	0.11	0.12	0.13	0.12	0.09
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.15	0.17	0.18	0.18	0.19	0.18	0.21	0.19	0.17	0.18	0.19	0.16	0.16	0.19	0.20	0.15	0.14	0.18	0.19	0.00
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.06
Fe 2+	1.73	1.67	1.70	1.67	1.69	1.73	1.69	1.66	1.67	1.68	1.66	1.68	1.70	1.64	1.66	1.61	1.75	1.71	1.71	1.79
Fe 3+	0.08	0.18	0.08	0.16	0.10	0.02	0.05	0.14	0.16	0.12	0.16	0.19	0.13	0.18	0.12	0.30	0.03	0.01	0.00	0.19
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**3.99**	**4.00**
Hem (%)	**2.13**	**4.66**	**1.94**	**4.07**	**2.48**	**0.59**	**1.34**	**3.51**	**4.18**	**3.02**	**4.01**	**4.83**	**3.41**	**4.55**	**3.08**	**7.70**	**0.69**	**0.37**	**0.00**	**4.86**
Pirof (%)	1.65	1.31	1.56	1.39	1.56	1.47	1.49	1.45	1.51	1.47	1.27	1.43	1.49	1.36	1.50	1.54	1.64	1.51	1.60	3.05
Geiq (%)	7.76	8.78	9.47	9.35	9.55	9.24	10.64	9.78	8.88	9.39	9.50	8.01	8.10	9.62	10.44	7.94	7.46	9.54	9.59	0.21
Ilm (%)	88.46	85.26	87.04	85.19	86.41	88.69	86.53	85.25	85.44	86.12	85.22	85.73	87.00	84.47	84.97	82.82	90.21	88.58	88.81	91.88

Table C.8- EPMA results for ilmenite (cont)

SERIES	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI	ODVI
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Troct	Leucogss	Leucogss	Leucogss	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog
DESCRIP	Ilm (B)	Ilm (E)	Ilm ©	Ilm ©	Ilm GM (C)	Ilm GM (B)	Ilm GM (B)	Ilm GC (B)	Ilm GC (C)	Ilm GC (E)	Ilm (B)	Ilm (B)	Ilm (E)	Ilm (C)	Ilm (B)	Ilm (E)	Ilm (E)	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)
SAMPLE	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	ODV-G-3	S-4-2	S-4-2	S-4-2	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-34	ODV-G-26
Label	M 91(6_2)	M 92 (2_1)	M 94 (3_1)	M 96 (3_3)	M 106 (8_3)	M 104 (8_1)	M 107 (8_4)	M 109 (9_1)	M 110 (9_2)	M 112 (9_4)	M 144 (2_1)	M 146 (3_1)	M 149 (4_1)	48 (1_2)	47 (1_1)	49 (5_1)	53 (6_1)	56 (4_2)	55 (4_1)	63 (2_1)
SiO2	0.13	0.11	0.09	0.10	0.14	0.29	0.27	0.05	0.12	0.43	0.11	0.13	0.11	0.31	0.37	0.28	0.23	0.27	0.30	0.32
TiO2	47.61	49.90	48.74	47.63	48.11	48.99	49.07	47.68	48.83	46.89	47.60	50.16	49.42	49.34	49.67	50.76	50.51	50.51	50.49	48.84
Al2O3	0.00	0.02	0.00	0.05	0.02	0.09	0.13	0.02	0.03	1.96	0.01	0.02	0.02	0.05	0.09	0.00	0.05	0.00	0.03	0.00
V2O3	1.99	2.15	2.14	2.18	2.97	2.32	3.08	2.97	3.06	3.14	1.98	1.69	1.69	3.02	3.06	3.15	3.06	3.31	3.17	2.78
Cr2O3	0.02	0.01	0.00	0.00	0.02	0.21	0.02	0.04	0.04	0.09	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.04
MgO	0.08	0.10	0.12	0.08	0.04	0.07	0.06	0.05	0.07	0.12	0.01	0.21	0.01	2.49	2.42	2.43	2.14	2.45	2.46	0.77
CaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.10	0.00	0.00	0.00							
MnO	1.31	2.64	1.29	1.13	1.45	1.98	2.08	1.38	1.43	2.80	1.31	1.15	1.36	0.59	0.61	0.79	0.94	0.70	0.68	1.10
FeO	46.67	45.00	47.34	48.71	46.49	46.98	45.47	48.50	47.51	42.23	46.71	44.57	46.49	43.38	42.78	42.17	42.62	43.15	42.44	44.26
NiO	0.00	0.00	0.02	0.01	0.00	0.03	0.00	0.01	0.00	0.00	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02
ZnO	0.02	0.41	0.02	0.03	0.03	0.07	0.05	0.05	0.02	0.72	0.00	0.00	0.00	0.05	0.01	0.02	0.00	0.00	0.00	0.03
Na2O	0.02	0.05	0.04	0.01	0.01	0.03	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Total	**97.85**	**100.39**	**99.79**	**99.91**	**99.30**	**101.04**	**100.24**	**100.72**	**101.11**	**98.10**	**97.76**	**97.97**	**99.13**	**99.24**	**99.02**	**99.61**	**99.56**	**100.44**	**99.57**	**98.15**
Atoms per unit formula																				
Si	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.02
Ti	1.84	1.88	1.85	1.80	1.83	1.83	1.85	1.79	1.83	1.78	1.84	1.93	1.88	1.83	1.84	1.88	1.88	1.85	1.87	1.85
Al	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
V	0.08	0.09	0.09	0.09	0.12	0.09	0.12	0.12	0.12	0.13	0.08	0.07	0.07	0.12	0.12	0.12	0.12	0.13	0.13	0.11
Cr	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.18	0.18	0.18	0.16	0.18	0.18	0.06
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.06	0.11	0.05	0.05	0.06	0.08	0.09	0.06	0.06	0.12	0.06	0.05	0.06	0.02	0.03	0.03	0.04	0.03	0.03	0.05
Fe 2+	1.78	1.74	1.78	1.75	1.77	1.75	1.77	1.73	1.77	1.63	1.79	1.82	1.78	1.52	1.52	1.58	1.61	1.56	1.56	1.64
Fe 3+	0.23	0.14	0.22	0.30	0.20	0.20	0.14	0.30	0.21	0.15	0.22	0.09	0.18	0.27	0.25	0.16	0.15	0.20	0.18	0.23
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**3.98**	**3.99**	**3.96**	**3.95**	**3.97**	**3.97**	**3.97**	**3.96**	**3.96**
Hem (%)	**5.79**	**3.70**	**5.52**	**7.67**	**5.13**	**5.27**	**3.56**	**7.67**	**5.40**	**4.08**	**5.69**	**2.20**	**4.71**	**7.04**	**6.47**	**4.15**	**4.02**	**5.35**	**4.80**	**5.91**
Pirof (%)	2.92	5.76	2.81	2.47	3.22	4.31	4.59	3.00	3.12	6.48	2.92	2.54	2.97	1.29	1.34	1.72	2.06	1.52	1.48	2.45
Geiq (%)	0.30	0.38	0.45	0.29	0.15	0.26	0.22	0.21	0.25	0.49	0.03	0.83	0.04	9.57	9.33	9.34	8.22	9.33	9.44	3.01
Ilm (%)	90.98	90.16	91.23	89.57	91.51	90.16	91.62	89.12	91.23	88.95	91.36	94.43	92.28	82.11	82.86	84.80	85.70	83.80	84.28	88.63

Table C.8- EPMA results for ilmenite (cont)

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upp	Upp
UNIT	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Leucog	Leucog	Leucog	Leucog	Leucog	Leucog	Leucog	Leucog	Leucog	Anort	Anort	Ol Leucog	Ol Leucog
CLASIF	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Leucog ss	Leucog ss	Leucog ss	Hbl Leucog	Hbl Leucog	Ol Leucog	Ol Leucog
DESCRIP	Ilm GC (B)	Ilm GM (B)	Ilm GM (C)	Ilm GM (B)	Ilm (C)	Ilm (C)	Ilm (C)	Ilm (E)	Ilm (B)	Ilm (C)	Ilm (C)	Ilm (B)	Ilm GM (C)	Ilm GM (C)	Ilm GM (B)	Ilm (E)	Ilm_inc_Xeno_Mgt (C)	Ilm (E)	Ilm GM (C)	Ilm GM (B)
SAMPLE	ODV-G-26	ODV-G-25	ODV-G-25	ODV-G-25	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-21	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-24	ODV-G-38	ODV-G-38	ODV-G-38	ODV-G-39	ODV-G-39	ODV-G-35	ODV-G-35
Label	69 (4_1)	17 (2_1)	23 (1_2)	22 (1_1)	9 (4_2)	14 (6_2)	15 (7_1)	11(5_2)	38 (1_1)	39 (1_2)	41(2_2)	40 (2_1)	43 (3_2)	84 (5_3)	82 (5_1)	87 (7_1)	91(3_1)	92 (2_1)	72 (3_2)	75 (5_1)
SiO2	0.32	0.37	0.30	0.27	0.25	0.24	0.34	0.29	0.41	0.29	0.32	0.31	0.34	0.21	0.26	0.26	0.25	0.22	0.27	0.25
TiO2	47.94	48.81	47.99	48.01	49.17	50.18	49.15	51.11	47.58	47.13	47.95	47.80	48.95	50.08	49.65	50.63	49.71	45.56	49.67	49.60
Al2O3	0.00	0.02	0.06	0.04	0.00	0.04	0.00	0.00	0.00	0.06	0.00	0.19	0.00	0.00	0.02	0.40	0.00	0.00	0.02	0.06
V2O3	2.59	1.95	2.85	2.37	2.11	2.40	2.37	2.44	1.46	2.30	2.41	1.78	2.29	3.16	2.74	2.33	2.58	2.20	3.14	2.59
Cr2O3	0.09	0.02	0.05	0.04	0.01	0.00	0.02	0.00	0.06	0.07	0.00	0.02	0.00	0.01	0.01	0.07	0.08	0.13	0.00	0.00
MgO	0.33	3.32	3.67	3.74	0.05	0.17	0.11	0.10	0.08	0.07	0.15	0.18	0.05	3.15	3.11	2.92	0.15	0.14	2.61	1.97
CaO																				
MnO	1.36	0.63	0.44	0.42	1.45	1.36	1.24	1.66	1.63	1.58	1.26	1.25	3.78	0.57	0.56	0.85	3.60	3.10	0.64	0.74
FeO	45.82	43.25	43.63	43.25	46.27	45.54	45.00	42.86	46.02	47.34	46.63	46.86	42.55	42.08	41.43	40.81	42.33	46.51	41.56	43.45
NiO	0.04	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
ZnO	0.00	0.00	0.02	0.01	0.00	0.08	0.00	0.11	0.00	0.08	0.03	0.11	0.14	0.04	0.00	0.03	0.04	0.00	0.02	0.00
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00												
Total	**98.48**	**98.37**	**99.01**	**98.14**	**99.32**	**100.01**	**98.25**	**98.58**	**96.87**	**98.95**	**98.75**	**98.50**	**98.09**	**99.29**	**97.78**	**98.32**	**98.73**	**97.85**	**97.93**	**98.67**
Atoms per unit formula																				
Si	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Ti	1.82	1.81	1.76	1.78	1.86	1.88	1.87	1.95	1.82	1.78	1.82	1.81	1.87	1.85	1.86	1.89	1.89	1.74	1.87	1.86
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
V	0.10	0.08	0.11	0.09	0.09	0.10	0.10	0.10	0.06	0.09	0.10	0.07	0.09	0.12	0.11	0.09	0.10	0.09	0.13	0.10
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Mg	0.02	0.24	0.27	0.27	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.23	0.23	0.22	0.01	0.01	0.19	0.15
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.06	0.03	0.02	0.02	0.06	0.06	0.05	0.07	0.07	0.07	0.05	0.05	0.16	0.02	0.02	0.04	0.15	0.13	0.03	0.03
Fe 2+	1.63	1.42	1.38	1.40	1.71	1.73	1.70	1.77	1.61	1.61	1.65	1.64	1.59	1.53	1.52	1.55	1.64	1.53	1.56	1.60
Fe 3+	0.30	0.36	0.40	0.38	0.23	0.17	0.21	0.05	0.35	0.38	0.32	0.33	0.22	0.20	0.21	0.14	0.15	0.45	0.18	0.21
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**3.96**	**3.95**	**3.96**	**3.97**	**3.97**	**3.97**	**3.96**	**3.96**	**3.95**	**3.96**	**3.96**	**3.96**	**3.96**	**3.97**	**3.97**	**3.97**	**3.97**	**3.97**	**3.97**	**3.97**
Hem (%)	**7.93**	**9.35**	**10.47**	**9.94**	**6.03**	**4.37**	**5.40**	**1.24**	**9.15**	**9.86**	**8.26**	**8.68**	**5.75**	**5.22**	**5.35**	**3.71**	**3.86**	**11.68**	**4.71**	**5.45**
Pirof (%)	3.02	1.36	0.94	0.91	3.20	2.99	2.77	3.71	3.64	3.51	2.79	2.77	8.45	1.24	1.24	1.87	8.01	6.91	1.41	1.61
Geiq (%)	1.28	12.64	13.95	14.25	0.18	0.65	0.44	0.39	0.31	0.28	0.58	0.71	0.22	12.02	12.04	11.28	0.58	0.53	10.18	7.61
Ilm (%)	87.77	76.65	74.64	74.90	90.60	92.00	91.39	94.66	86.90	86.35	88.37	87.84	85.58	81.52	81.37	83.14	87.55	80.88	83.70	85.32

Table C.8- EPMA results for ilmenite (cont)

SERIES	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV II	ODV I	ODV I	ODV I	ODV I
GROUP									-	-	-	-	-	-	-	-	Low	Low	Low	Low
UNIT	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog I	Ol Leucog II	Ol Leucog II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Gb II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Amph Gb	Amph Gb	Amph Gb	Amph Gb
CLASIF	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Opx Leucog	Ol Leucog	Ol Leucog	Ol Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Hbl Gb	Hbl Gb	Hbl Gb	Hbl Gb
DESCRIP	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)	Ilm (C)	Ilm (B)	Ilm (E)	Ilm Opx (C)	Ilm GM (C)	Ilm GM (C)	Ilm GM (C)	Ilm GM_inc Cpx (C)	Ilm GM_inc Cpx (B)	Ilm GM (C)	Ilm GM (C)	Ilm_simpl_Opx (C)	Ilm Opx (C)	Ilm (C)	Ilm (B)	Ilm GM (C)	Ilm GM (B)
SAMPLE	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-41	ODV-G-40	ODV-G-40	ODV-D2	ODV-D2	ODV-D2	ODV-D2	ODV-D4	ODV-D4	ODV-D4	ODV-D4	ODV-D1	ODV-D1	ODV-D1	ODV-D1
Label	99 (1_1)	100 (1_2)	102 (4_1)	104 (4_3)	105 (4_4)	106 (5_1)	109 (4_1)	111 (5_2)	2688 [1-1]	2689 [1-2]	2693 [2-2]	2694 [2-3]	2682 [1-2]	2684 [2-2]	2686 [3-3]	2687 [3-4]	2582 [1-5]	2583 [1-6]	2586 [1-9]	2587 [1-10]
SiO2	0.15	0.27	0.29	0.34	0.27	0.29	0.38	0.36	0.34	1.05	0.28	0.39	0.35	0.27	0.23	0.32	0.34	0.33	0.43	0.30
TiO2	48.25	49.98	49.62	49.43	49.64	50.13	46.80	49.98	50.22	49.51	50.83	51.20	50.09	51.12	46.86	48.22	49.44	48.19	49.05	48.73
Al2O3	0.07	0.04	0.00	0.16	0.03	0.01	0.04	0.02	0.00	0.09	0.02	0.00	0.00	0.01	0.02	0.07	0.00	0.00	0.00	0.00
V2O3	3.21	3.13	3.12	3.13	3.18	3.21	2.78	2.99	1.89	1.92	2.25	1.96	1.85	1.94	3.37	1.91	1.76	1.53	1.28	2.80
Cr2O3	0.02	0.00	0.01	0.03	0.00	0.00	0.04	0.03	0.06	0.02	0.16	0.17	0.09	0.01	0.04	0.00	0.02	0.03	0.02	0.00
MgO	2.96	3.08	2.69	2.72	2.91	3.74	2.83	2.40	2.77	2.75	4.02	3.90	3.02	2.58	2.67	3.39	0.03	0.03	0.02	0.00
CaO																				
MnO	0.46	0.52	0.60	0.54	0.57	0.65	0.56	1.23	0.56	0.59	0.99	1.03	1.29	1.08	0.67	0.50	1.08	0.94	1.07	1.07
FeO	43.68	42.52	43.02	43.19	43.79	41.17	45.48	42.53	43.76	43.93	41.29	40.28	41.92	42.66	44.23	44.08	45.23	46.78	47.07	46.49
NiO	0.01	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.03	0.01	0.00	0.02			0.01	0.01				
ZnO	0.00	0.02	0.01	0.00	0.00	0.00	0.06	0.00												
Na2O																				
Total	**98.81**	**99.55**	**99.39**	**99.55**	**100.39**	**99.19**	**98.97**	**99.54**	**99.64**	**99.87**	**99.84**	**98.95**	**98.62**	**99.65**	**98.10**	**98.50**	**97.90**	**97.82**	**98.92**	**99.39**
Atoms per unit formula																				
Si	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.02	0.05	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Ti	1.80	1.84	1.83	1.82	1.81	1.84	1.73	1.85	1.85	1.77	1.85	1.88	1.86	1.89	1.75	1.78	1.89	1.84	1.85	1.84
Al	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.13	0.12	0.12	0.12	0.12	0.13	0.11	0.12	0.07	0.07	0.09	0.08	0.07	0.08	0.13	0.08	0.07	0.06	0.05	0.11
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.22	0.22	0.20	0.20	0.21	0.27	0.21	0.18	0.20	0.20	0.29	0.28	0.22	0.19	0.20	0.25	0.00	0.00	0.00	0.00
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.05	0.02	0.02	0.04	0.04	0.05	0.04	0.03	0.02	0.05	0.04	0.05	0.05
Fe 2+	1.51	1.51	1.52	1.49	1.49	1.45	1.37	1.50	1.51	1.23	1.43	1.43	1.47	1.57	1.45	1.41	1.73	1.69	1.67	1.70
Fe 3+	0.30	0.23	0.25	0.28	0.29	0.23	0.49	0.24	0.28	0.52	0.24	0.22	0.26	0.18	0.39	0.40	0.19	0.30	0.31	0.26
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**3.98**	**3.97**	**3.96**	**3.96**	**3.97**	**3.96**	**3.95**	**3.96**	**3.96**	**3.87**	**3.97**	**3.95**	**3.96**	**3.97**	**3.97**	**3.96**	**3.96**	**3.96**	**3.95**	**3.96**
Hem (%)	**7.78**	**6.07**	**6.55**	**7.28**	**7.46**	**6.02**	**12.89**	**6.37**	**7.21**	**13.93**	**6.24**	**5.61**	**6.75**	**4.74**	**10.16**	**10.38**	**4.98**	**7.68**	**7.99**	**6.66**
Pirof (%)	1.00	1.12	1.30	1.18	1.23	1.40	1.21	2.69	1.20	1.28	2.12	2.21	2.80	2.31	1.48	1.07	2.40	2.08	2.34	2.37
Geiq (%)	11.37	11.73	10.32	10.43	11.02	14.23	10.84	9.19	10.47	10.44	15.06	14.74	11.49	9.74	10.36	12.87	0.11	0.12	0.06	0.00
Ilm (%)	79.84	81.07	81.83	81.11	80.29	78.36	75.06	81.75	81.12	74.36	76.58	77.44	78.96	83.21	78.01	75.69	92.51	90.11	89.61	90.97

Table C.8- EPMA results for ilmenite (cont)

SERIES	ODV I	ODV I	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Upp	Upp	Upp	Low	Low	Low	Upp	Upp	Upp	Upp	Upp
UNIT	Amph Gb	Amph Gb	Px Gb I	Px Gb I	Px Gb I	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog II	Ol Leucog III	Ol Leucog III	Ol Leucog III	Px Gb I	Px Gb I	Px Gb I	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog
CLASIF	Hbl Gb	Hbl Gb	Ol Gb	Ol Gb	Ol Gb	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Cpxnt	Cpxnt	Cpxnt	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog	Oxd Ol Leucog
DESCRIP	Ilm GM (C)	Ilm GM (B)	Im GM (C)	Ilm (B)	Ilm GM (B)	Ilm GM Sulf (C)	Ilm GM Sulf (B)	Ilm GM (C)	Ilm GM (B)	Ilm GM inc Pl (C)	Ilm GM (C)	Ilm GM (B)	Ilm GM (C)	Ilm GM (C)	Ilm GM (B)	Ilm (E)	Ilm (E)	Ilm GM (C)	Ilm GM sulfs ©	Ilm GM sulfs (B)
SAMPLE	ODV-D1	ODV-D1	CVD-17	CVD-17	CVD-17	CVD-16B	CVD-16B	CVD-16B	CVD-16B	CVD-20	CVD-20	CVD-20	SN-N3	SN-N3	SN-N3	SB-1A	SB-1A	SB-1A	SB-11	SB-11
Label	2590 [3-3]	2591[3-4]	2704 [6-2]	2705 [6-3]	2708 [4-6]	2697 [4-3]	2698 [4-4]	2701[6-3]	2702 [6-4]	2718 [1-3]	2721[2-3]	2722 [2-4]	2724 [2-5]	2727 [3-5]	2728 [3-6]	112 (5_1)	118 (6_1)	117 (5_6)	660 (2_1)	662 (2_3)
SiO2	0.41	0.41	0.33	0.33	0.41	0.32	0.39	0.27	0.31	0.26	0.38	0.36	0.33	0.33	0.39	0.28	0.23	0.28	0.29	0.29
TiO2	47.03	47.54	47.89	47.90	49.46	49.83	50.13	49.29	47.99	51.31	51.00	50.65	52.54	51.75	50.75	51.10	51.78	50.31	49.79	51.06
Al2O3	0.00	0.00	0.06	0.03	0.03	0.00	0.02	0.00	0.03	0.02	0.06	0.00	0.01	0.01	0.00	0.01	0.21	0.02	0.02	0.00
V2O3	2.60	3.19	2.34	2.29	2.33	1.64	1.72	1.92	1.99	1.59	1.57	1.92	2.32	2.33	1.83	1.99	3.46	3.25	1.09	2.04
Cr2O3	0.02	0.05	0.00	0.03	0.00	0.05	0.03	0.08	0.18	0.04	0.00	0.05	0.00	0.07	0.01	0.03	0.01	0.00	0.02	0.00
MgO	0.09	0.15	3.50	3.30	3.44	2.39	2.62	3.96	3.92	2.41	2.17	2.26	3.59	3.03	3.02	1.62	3.57	2.66	2.98	3.20
CaO																0.00	0.00	0.00	0.00	0.01
MnO	1.03	1.08	0.46	0.46	0.45	0.81	0.90	0.33	0.33	0.80	0.66	0.73	0.64	0.56	0.60	0.97	0.81	0.64	0.54	0.58
FeO	47.78	46.54	46.18	42.82	44.70	44.62	44.05	44.78	44.76	42.12	42.93	43.49	41.09	42.75	42.64	43.26	39.23	41.86	43.38	42.04
NiO			0.02	0.02	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00
ZnO																0.01	0.03	0.05	0.00	0.02
Na2O																0.00	0.00	0.02	0.00	0.00
Total	98.95	98.97	100.78	96.83	100.81	99.66	99.86	100.65	99.54	98.55	98.76	99.46	100.51	100.84	99.23	99.28	99.34	99.10	98.12	99.24
Atoms per unit formula																				
Si	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Ti	1.77	1.79	1.73	1.80	1.78	1.84	1.84	1.78	1.75	1.92	1.90	1.87	1.91	1.88	1.87	1.91	1.91	1.87	1.86	1.89
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
V	0.10	0.13	0.09	0.09	0.09	0.06	0.07	0.07	0.08	0.06	0.06	0.08	0.09	0.09	0.07	0.08	0.14	0.13	0.04	0.08
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.01	0.01	0.25	0.25	0.25	0.17	0.19	0.28	0.28	0.18	0.16	0.17	0.26	0.22	0.22	0.12	0.26	0.20	0.22	0.23
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.04	0.05	0.02	0.02	0.02	0.03	0.04	0.01	0.01	0.03	0.03	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.02	0.02
Fe 2+	1.59	1.60	1.36	1.42	1.39	1.53	1.49	1.40	1.35	1.62	1.59	1.56	1.52	1.54	1.50	1.66	1.54	1.55	1.52	1.53
Fe 3+	0.41	0.35	0.50	0.36	0.40	0.30	0.31	0.40	0.46	0.13	0.19	0.23	0.14	0.19	0.25	0.14	0.07	0.18	0.28	0.19
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	3.95	3.95	3.96	3.96	3.95	3.96	3.95	3.97	3.96	3.97	3.95	3.96	3.96	3.96	3.95	3.96	3.97	3.96	3.96	3.96
Hem (%)	10.78	9.23	12.90	9.41	10.47	7.78	8.02	10.29	11.91	3.34	4.89	5.89	3.64	4.98	6.37	3.65	1.82	4.70	7.16	4.97
Pirof (%)	2.29	2.41	0.97	1.01	0.96	1.73	1.93	0.69	0.71	1.73	1.43	1.58	1.35	1.20	1.28	2.11	1.76	1.41	1.17	1.24
Geiq (%)	0.33	0.59	13.00	12.74	12.80	9.01	9.85	14.62	14.66	9.20	8.28	8.59	13.42	11.34	11.42	6.21	13.68	10.24	11.30	12.10
Ilm (%)	86.60	87.77	73.13	76.84	75.77	81.48	80.20	74.40	72.72	85.73	85.40	83.94	81.60	82.48	80.94	88.03	82.73	83.66	80.36	81.70

Table C.8- EPMA results for ilmenite (cont)

SERIES	BRG I	BRG I	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Upp	Upp	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Oxd Ol Leucog	Oxd Ol Leucog	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I
CLASIF	Oxd Ol Leucog	Oxd Ol Leucog	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min	Cpxnt-Type III Min
DESCRIP	Ilm (E)	Ilm GM ©	Ilm GM inc Sulf (C)	Ilm (C)	Ilm (B)	Ilm (C)	Ilm (B)	Ilm GM sulf (C)	Ilm (C)	Ilm (B)	Ilm GM sulf (C)	Ilm GM sulf (B)	Ilm GM sulf (C)	Ilm GM sulf (B)	Ilm pos Sulf (C)	Ilm pos Sulf (B sulf)	Ilm inc sulf (C)	Ilm (C)
SAMPLE	SB-19	SB-19	FG-6-A1	FG-6-A3	FG-6-A3	FG-6-A3	FG-6-A3	FG-6-A3	FG-6-A3	FG-6-A3	FG-6-B1	FG-6-B1	FG-6-B1	FG-6-B1	FG-6-B1	FG-6-B1	FG-6-A1	FG-6-B1
Label	673 (6_1)	677 (6_5)	729 (2_3)	730 (1_1)	731(1_2)	732 (2_1)	733 (2_2)	734 (3_1)	735 (3_2)	736 (3_3)	737 (1_1)	738 (1_2)	739 (2_1)	740 (2_2)	741(3_1)	742 (3_2)	726 (1_1)	743 (4_1)
SiO2	0.38	0.22	0.35	0.34	0.24	0.35	0.32	0.36	0.30	0.32	0.27	0.33	0.39	0.37	0.26	0.38	0.28	0.39
TiO2	51.02	49.96	49.30	48.36	48.45	50.28	49.76	50.38	49.11	49.40	51.24	50.50	51.74	51.01	52.09	51.69	48.45	52.17
Al2O3	0.00	0.02	0.04	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.01
V2O3	1.69	1.57	1.51	1.60	2.04	2.79	2.73	2.81	2.33	2.33	2.77	2.49	2.88	2.67	3.03	2.98	2.26	2.89
Cr2O3	0.03	0.00	0.20	0.08	0.10	0.11	0.17	0.28	0.23	0.26	0.12	0.19	0.04	0.10	0.09	0.09	0.15	0.08
MgO	2.94	2.67	2.00	0.19	0.18	2.39	2.29	2.25	0.36	0.27	1.95	0.80	2.13	1.48	2.95	2.96	0.30	1.64
CaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MnO	0.74	0.65	3.06	3.53	3.70	1.28	1.41	2.60	2.91	3.31	2.82	3.27	2.47	3.11	2.40	2.85	3.68	2.94
FeO	42.05	43.19	43.91	45.65	44.60	43.90	42.40	41.37	44.40	43.35	41.38	42.38	40.48	40.87	39.25	39.16	46.63	40.93
NiO	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.02	0.00	0.03	0.00
ZnO	0.04	0.00	0.03	0.01	0.03	0.00	0.00	0.03	0.00	0.03	0.02	0.00	0.00	0.06	0.01	0.06	0.06	0.01
Na2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**98.88**	**98.27**	**100.41**	**99.80**	**99.34**	**101.11**	**99.08**	**100.08**	**99.64**	**99.27**	**100.58**	**100.02**	**100.14**	**99.66**	**100.12**	**100.19**	**101.56**	**101.07**
Atoms per unit formula																		
Si	0.02	0.01	0.02	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.02
Ti	1.89	1.87	1.81	1.81	1.83	1.83	1.85	1.85	1.84	1.86	1.89	1.88	1.90	1.90	1.91	1.89	1.78	1.91
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.07	0.06	0.06	0.06	0.08	0.11	0.11	0.11	0.09	0.09	0.11	0.10	0.11	0.11	0.12	0.12	0.09	0.11
Cr	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Mg	0.22	0.20	0.15	0.01	0.01	0.17	0.17	0.16	0.03	0.02	0.14	0.06	0.16	0.11	0.22	0.21	0.02	0.12
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.03	0.03	0.13	0.15	0.16	0.05	0.06	0.11	0.12	0.14	0.12	0.14	0.10	0.13	0.10	0.12	0.15	0.12
Fe 2+	1.52	1.58	1.42	1.53	1.58	1.49	1.52	1.47	1.60	1.59	1.54	1.58	1.52	1.54	1.51	1.44	1.51	1.55
Fe 3+	0.21	0.22	0.37	0.36	0.29	0.28	0.23	0.23	0.26	0.22	0.15	0.18	0.14	0.15	0.09	0.16	0.39	0.12
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**3.95**	**3.97**	**3.96**	**3.96**	**3.97**	**3.96**	**3.96**	**3.96**	**3.96**	**3.96**	**3.97**	**3.96**	**3.95**	**3.95**	**3.97**	**3.95**	**3.97**	**3.95**
Hem (%)	**5.45**	**5.75**	**9.47**	**9.41**	**7.57**	**7.39**	**6.06**	**5.90**	**6.68**	**5.80**	**3.99**	**4.67**	**3.56**	**3.99**	**2.33**	**4.10**	**10.13**	**3.16**
Pirof (%)	1.59	1.42	6.54	7.69	8.11	2.74	3.08	5.65	6.40	7.32	6.10	7.16	5.35	6.81	5.19	6.16	7.90	6.35
Geiq (%)	11.15	10.17	7.52	0.71	0.68	9.02	8.82	8.59	1.37	1.06	7.43	3.08	8.15	5.69	11.22	11.26	1.11	6.24
Ilm (%)	81.82	82.66	76.47	82.19	83.63	80.85	82.04	79.85	85.55	85.83	82.48	85.09	82.94	83.51	81.26	78.48	80.86	84.25

Table C.8A- EPMA results for ilmenite included in Type I mineralisation

SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum	Cum
CLASIF	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min	Type I Min
DESCRIP	Ilm (B)	Ilm (N)	Ilm (B)	Ilm (N)	Ilm (B)	Ilm (N)	Ilm (N)	Ilm (B)	Ilm (B)	Ilm (B)	Ilm (N)	Ilm (B)
SAMPLE	ODV-5-A-2	ODV-5-A-2	ODV-5-A-2	ODV-5-A-2	ODV-5-A-2	ODV-5-A-2	ODV-5-A-1	ODV-5-A-1	ODV-5-A-1	ODV-5-A-1	ODV-5-4	ODV-5-4
Label	69	71	78	79	81	82	157	158	164	168	174	175
SiO2	0.08	0.11	0.09	0.12	0.07	0.10	0.11	0.15	0.13	0.11	0.12	0.16
TiO2	52.14	50.91	51.68	51.69	51.81	52.49	51.21	52.22	51.33	52.67	51.49	50.73
Al2O3	0.07	0.06	0.04	0.02	0.03	0.03	0.03	0.07	0.05	0.05	0.04	0.05
V2O3	2.58	2.51	2.48	2.52	2.31	2.31	1.93	1.89	1.91	2.07	1.99	1.85
Cr2O3	0.05	0.02	0.00	0.00	0.01	0.04	0.02	0.02	0.01	0.01	0.00	0.00
MgO	5.04	4.56	5.07	4.90	4.88	5.16	4.83	5.03	5.02	5.40	5.04	4.98
CaO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MnO	0.70	0.61	0.68	0.67	0.70	0.73	0.67	0.71	0.72	0.71	0.73	0.66
FeO	38.78	40.13	38.74	39.17	38.69	37.65	40.91	40.20	41.46	40.40	40.38	41.96
NiO	0.00	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.02
ZnO	0.00	0.02	0.00	0.03	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.03
Na2O	0.01	0.00	0.02	0.00	0.00	0.01	0.01	0.01	0.06	0.00	0.00	0.00
Total	**99.37**	**98.83**	**98.72**	**99.00**	**98.49**	**98.43**	**99.62**	**100.15**	**100.55**	**101.31**	**99.68**	**100.28**
Atoms per unit formula												
Si	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Ti	1.91	1.88	1.91	1.90	1.92	1.94	1.87	1.90	1.86	1.89	1.88	1.84
Al	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V	0.10	0.10	0.10	0.10	0.09	0.09	0.08	0.07	0.07	0.08	0.08	0.07
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	0.37	0.33	0.37	0.36	0.36	0.38	0.35	0.36	0.36	0.38	0.36	0.36
Ca	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mn	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Fe 2+	1.52	1.53	1.51	1.52	1.53	1.54	1.50	1.51	1.46	1.48	1.49	1.46
Fe 3+	0.06	0.12	0.08	0.08	0.06	0.01	0.17	0.11	0.20	0.13	0.15	0.23
Ni	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Na	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
O	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Tcat	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**
Hem (%)	**1.60**	**3.15**	**2.07**	**2.09**	**1.55**	**0.32**	**4.22**	**2.85**	**5.21**	**3.29**	**3.79**	**5.90**
Pirof (%)	1.49	1.30	1.45	1.42	1.49	1.55	1.40	1.48	1.49	1.47	1.53	1.38
Geiq (%)	18.86	17.17	19.03	18.38	18.38	19.41	17.89	18.53	18.40	19.61	18.65	18.27
Ilm (%)	78.06	78.38	77.45	78.11	78.58	78.72	76.49	77.14	74.90	75.63	76.03	74.44

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks.

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Upp	Upp	Upp	Upp	Low	Low
UNIT	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Sub-Ophitic	Sub-Ophitic
CLASIF	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Qz Diorite	Qz Diorite
DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Ab secondary Vug (C)	Ab secondary Vug (B)	Pl alt (C)	Ab secondary Vug (C)	Pl core (B)	Pl rim (C)
SAMPLE	**ODV-D1**	**ODV-D1**	**ODV-D1**	**ODV-D1**	**ODV-D1**	**ODV-D1**	**ODV-D1**	**ODV-D1**	**CVD-5**	**CVD-5**	**CVD-5**	**CVD-5**	**CVD-19**	**CVD-19**
Label	2305 [1-3]	2306 [1-4]	2307 [1-11]	2308 [1-12]	2315 [2-5]	2316 [2-6]	2317 [2-7]	2318 [2-8]	764 [4-6]	765 [4-7]	766 [4-8]	769 [5-3]	2093 [1-2]	2094 [1-3]
SiO2	55.90	56.94	56.02	56.98	54.88	58.02	57.15	56.95	69.13	68.43	67.28	68.17	54.24	65.05
Al2O3	29.07	28.09	28.73	28.82	29.01	27.21	27.64	27.64	19.86	20.00	20.51	20.06	28.36	21.83
FeO(t)	0.23	0.26	0.22	0.31	0.18	0.15	0.18	0.13	0.01	0.00	0.02	0.01	0.38	0.02
CaO	10.30	9.23	9.81	9.55	10.27	8.08	9.00	8.46	0.44	0.79	1.43	0.81	10.65	3.41
Na2O	5.34	6.05	5.61	6.07	5.45	6.64	6.15	6.52	12.03	11.79	11.48	12.19	4.93	9.89
K2O	0.21	0.22	0.15	0.13	0.23	0.16	0.24	0.12	0.01	0.04	0.03	0.02	0.18	0.19
total	**101.05**	**100.79**	**100.53**	**101.86**	**100.03**	**100.25**	**100.35**	**99.82**	**101.48**	**101.04**	**100.76**	**101.27**	**98.74**	**100.39**
Atoms per formula unit														
Si	9.95	10.14	10.01	10.05	9.88	10.34	10.21	10.22	11.92	11.87	11.73	11.82	9.90	11.43
Al	6.10	5.89	6.05	5.99	6.16	5.72	5.82	5.84	4.04	4.09	4.21	4.10	6.10	4.52
Fe3+	0.03	0.04	0.03	0.05	0.03	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.06	0.00
Ca	1.96	1.76	1.88	1.80	1.98	1.54	1.72	1.63	0.08	0.15	0.27	0.15	2.08	0.64
Na	1.84	2.09	1.94	2.08	1.90	2.29	2.13	2.27	4.02	3.96	3.88	4.10	1.74	3.37
K	0.05	0.05	0.04	0.03	0.05	0.04	0.05	0.03	0.00	0.01	0.01	0.00	0.04	0.04
total	**19.93**	**19.97**	**19.94**	**19.99**	**20.00**	**19.95**	**19.96**	**20.00**	**20.07**	**20.07**	**20.10**	**20.18**	**19.92**	**20.01**
Or(%)	1	1	1	1	1	1	1	1	0	0	0	0	1	1
Ab (%)	48	54	50	53	48	59	54	58	98	96	93	96	45	83
An (%)	**51**	**45**	**49**	**46**	**50**	**40**	**44**	**41**	**2**	**4**	**6**	**4**	**54**	**16**

PROFILE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric
CLASIF	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite
DESCRIP	Ab (C)	Ab (B)	Ab (B)	Ab (C)	Ab (B)	Ab (B)	Ab (B)	Pl (C)	Pl (C)	Pl/Ab (C)	Ab (C)	Ab (B)	Ab (C)	Ab (B)
SAMPLE	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D5-1**	**SB-D5-2**	**SB-D5-2**	**SB-D5-2**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**
Label	2448 [2-1]	2449 [2-2]	2450 [2-3]	2451 [3-1]	2452 [3-2]	2453 [3-3]	2484 [3-2]	2485 [1-1]	2486 [1-2]	2487 [1-3]	2456 [1-3]	2457 [1-4]	2460 [1-7]	2461 [1-8]
SiO2	69.18	68.71	69.32	69.00	68.13	68.45	69.02	66.89	66.87	67.47	68.19	68.27	69.15	68.81
Al2O3	19.79	20.00	20.19	19.50	19.65	19.74	19.89	20.38	20.73	20.62	20.07	20.01	20.24	20.51
FeO(t)	0.04	0.08	0.02	0.01	0.00	0.04	0.00	0.03	0.06	0.06	0.02	0.04	0.01	0.03
CaO	0.31	0.52	0.56	0.17	0.46	0.38	0.45	1.27	1.42	1.30	0.72	0.67	0.62	0.75
Na2O	11.39	11.31	11.62	11.49	11.42	11.41	11.48	10.72	10.65	10.94	11.16	11.29	11.28	11.29
K2O	0.62	0.11	0.11	0.09	0.10	0.14	0.04	0.30	0.28	0.22	0.15	0.16	0.12	0.13
total	**101.33**	**100.74**	**101.83**	**100.25**	**99.77**	**100.16**	**100.88**	**99.58**	**100.01**	**100.61**	**100.31**	**100.43**	**101.43**	**101.51**
Atoms per formula unit														
Si	11.96	11.92	11.91	12.01	11.94	11.94	11.95	11.77	11.73	11.76	11.89	11.89	11.91	11.86
Al	4.03	4.09	4.09	4.00	4.06	4.06	4.06	4.23	4.28	4.24	4.12	4.11	4.11	4.16
Fe3+	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00
Ca	0.06	0.10	0.10	0.03	0.09	0.07	0.08	0.24	0.27	0.24	0.13	0.13	0.11	0.14
Na	3.82	3.80	3.87	3.88	3.88	3.86	3.85	3.66	3.62	3.70	3.77	3.81	3.77	3.77
K	0.14	0.03	0.02	0.02	0.02	0.03	0.01	0.07	0.06	0.05	0.03	0.04	0.03	0.03
total	**20.00**	**19.95**	**20.00**	**19.94**	**19.99**	**19.97**	**19.95**	**19.97**	**19.97**	**19.99**	**19.95**	**19.98**	**19.93**	**19.96**
Or(%)	3	1	1	1	1	1	0	2	2	1	1	1	1	1
Ab (%)	95	97	97	99	97	97	98	92	92	93	96	96	96	96
An (%)	**1**	**2**	**3**	**1**	**2**	**2**	**2**	**6**	**7**	**6**	**3**	**3**	**3**	**4**

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic
CLASIF	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite
DESCRIP	Pl core (C)	Pl core (B)	Pl rim (B)	Pl rim (B)	Pl core (C)	Pl core (B)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl core (C)	Pl core (B)	Pl core (C)	Pl core (B)	Pl rim (C)
SAMPLE	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**	**CVD-19**
Label	2097 [2-1]	2098 [2-2]	2099 [2-3]	2100 [2-4]	2101 [2-5]	2102 [2-6]	2105 [3-1]	2106 [3-2]	2107 [3-3]	2108 [3-4]	2109 [3-5]	2112 [4-1]	2113 [4-2]	2114 [4-3]
SiO2	58.14	58.49	58.95	57.87	59.64	58.68	53.97	55.92	58.91	59.75	58.25	57.63	57.45	58.63
Al2O3	25.94	26.08	25.84	25.88	25.22	25.84	28.36	27.16	25.73	25.11	26.07	26.33	26.95	25.85
FeO(t)	0.08	0.11	0.10	0.14	0.14	0.10	0.47	0.24	0.15	0.11	0.07	0.14	0.12	0.15
CaO	8.08	7.99	7.77	8.06	7.14	7.90	10.94	9.63	7.65	7.19	8.22	8.60	9.11	8.24
Na2O	6.78	7.18	7.05	6.83	7.49	7.09	5.15	5.81	7.12	7.18	6.83	6.66	6.40	6.85
K2O	0.23	0.09	0.20	0.16	0.28	0.08	0.20	0.24	0.23	0.25	0.11	0.29	0.16	0.27
total	**99.24**	**99.95**	**99.91**	**98.94**	**99.91**	**99.69**	**99.08**	**99.01**	**99.79**	**99.59**	**99.55**	**99.66**	**100.18**	**100.00**
Atoms per formula unit														
Si	10.48	10.47	10.54	10.46	10.65	10.52	9.84	10.15	10.55	10.69	10.46	10.37	10.28	10.49
Al	5.51	5.50	5.44	5.51	5.31	5.46	6.09	5.81	5.43	5.29	5.52	5.58	5.69	5.45
Fe3+	0.01	0.02	0.02	0.02	0.02	0.02	0.07	0.04	0.02	0.02	0.01	0.02	0.02	0.02
Ca	1.56	1.53	1.49	1.56	1.37	1.52	2.14	1.87	1.47	1.38	1.58	1.66	1.75	1.58
Na	2.37	2.49	2.44	2.39	2.60	2.46	1.82	2.04	2.47	2.49	2.38	2.32	2.22	2.38
K	0.05	0.02	0.05	0.04	0.06	0.02	0.05	0.06	0.05	0.06	0.03	0.07	0.04	0.06
total	**19.98**	**20.03**	**19.98**	**19.99**	**20.01**	**19.99**	**20.01**	**19.97**	**19.99**	**19.93**	**19.97**	**20.02**	**19.99**	**19.99**
Or(%)	1	1	1	1	2	0	1	1	1	1	1	2	1	2
Ab (%)	60	62	61	60	64	62	45	51	62	63	60	57	55	59
An (%)	**39**	**38**	**37**	**39**	**34**	**38**	**53**	**47**	**37**	**35**	**40**	**41**	**44**	**39**

PROFILE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00
SERIES	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	BRGI	-	-	-	-	-
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	BG	BG	BG	BG	BG
UNIT	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite
DESCRIP	Ab (C)	Ab (B)	Ab Rim (C)	Rim Ab (C)	Ab rim (C)	Fp K (C)	Fp K (C)	Fp K (C)	Fp K (C)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl rim (B)	Pl core (C)
SAMPLE	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**SB-D4**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**
Label	2462 [2-1]	2463 [2-2]	2466 [2-5]	2468 [3-2]	2470 [3-4]	2458 [1-5]	2464 [2-3]	2467 [3-1]	2469 [3-3]	1331 [1-1]	1332 [1-2]	1333 [1-3]	1334 [1-4]	1342 [5-3]
SiO2	69.21	69.42	69.49	69.22	69.25	66.29	65.77	66.59	65.94	54.04	53.74	61.02	60.62	53.56
Al2O3	20.15	20.22	20.24	19.83	19.71	18.64	18.78	18.74	18.75	30.11	30.15	25.08	25.38	30.30
FeO(t)	0.01	0.01	0.03	0.00	0.00	0.02	0.00	0.03	0.00	0.16	0.12	0.10	0.04	0.16
CaO	0.63	0.50	0.62	0.25	0.14	0.00	0.02	0.00	0.00	11.07	11.18	6.28	6.48	11.50
Na2O	11.50	11.52	11.35	10.76	11.54	1.96	1.50	1.56	1.29	5.20	4.91	8.36	8.27	5.03
K2O	0.18	0.25	0.11	0.49	0.13	14.00	14.76	14.60	15.11	0.12	0.17	0.14	0.06	0.14
total	**101.68**	**101.92**	**101.85**	**100.54**	**100.77**	**100.93**	**100.83**	**101.52**	**101.09**	**100.70**	**100.26**	**100.98**	**100.84**	**100.69**
Atoms per formula unit														
Si	11.91	11.91	11.92	12.01	11.99	12.03	11.98	12.03	12.00	9.69	9.67	10.76	10.71	9.62
Al	4.09	4.09	4.09	4.05	4.02	3.99	4.03	3.99	4.02	6.36	6.40	5.21	5.28	6.41
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.02
Ca	0.12	0.09	0.11	0.05	0.03	0.00	0.00	0.00	0.00	2.13	2.16	1.19	1.23	2.21
Na	3.84	3.83	3.78	3.62	3.87	0.69	0.53	0.54	0.45	1.81	1.71	2.86	2.83	1.75
K	0.04	0.05	0.02	0.11	0.03	3.24	3.43	3.37	3.51	0.03	0.04	0.03	0.01	0.03
total	**19.99**	**19.98**	**19.93**	**19.83**	**19.95**	**19.95**	**19.98**	**19.93**	**19.98**	**20.03**	**19.99**	**20.07**	**20.07**	**20.05**
Or(%)	1	1	1	3	1	82	87	86	89	1	1	1	0	1
Ab (%)	96	96	96	96	99	18	13	14	11	46	44	70	70	44
An (%)	**3**	**2**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**54**	**55**	**29**	**30**	**55**

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular
CLASIF	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite
DESCRIP	Pl core Sct (C)	Pl rim (C)	Pl rim (B)	Pl core (C)	Pl rim (B)	Pl core (C)	Pl rim (B)	Pl core (C)	Pl rim (C)	Pl core (C)	Pl rim (C)	Pl rim (B)	Pl core (C)	Pl core (B)
SAMPLE	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**	**CVD-19B**
Label	2141 [1-1]	2142 [1-2]	2143 [1-3]	2144 [1-4]	2145 [1-5]	2148 [2-4]	2149 [2-5]	2150 [2-6]	2151 [2-7]	2152 [2-8]	2153 [2-9]	2154 [2-10]	2159 [3-5]	2160 [3-6]
SiO2	58.50	56.17	60.05	56.25	62.56	54.29	57.92	60.00	56.51	60.28	62.13	61.39	57.51	65.92
Al2O3	25.61	27.07	24.61	27.22	23.45	28.34	26.79	25.76	27.79	24.72	23.83	24.62	26.16	22.33
FeO(t)	0.13	0.17	0.17	0.31	0.21	0.48	0.23	0.12	0.13	0.07	0.04	0.18	0.35	0.20
CaO	7.12	8.99	6.34	9.21	4.66	10.37	8.18	6.95	9.25	6.19	5.12	5.64	8.30	3.22
Na2O	7.29	6.02	7.41	6.17	8.80	5.37	6.89	7.66	6.27	8.08	8.50	8.27	6.63	9.81
K2O	0.14	0.20	0.24	0.25	0.27	0.13	0.22	0.21	0.11	0.19	0.27	0.49	0.19	0.19
total	**98.78**	**98.61**	**98.81**	**99.41**	**99.96**	**98.98**	**100.23**	**100.69**	**100.06**	**99.52**	**99.89**	**100.59**	**99.14**	**101.67**
Atoms per formula unit														
Si	10.56	10.21	10.80	10.17	11.09	9.89	10.35	10.63	10.14	10.78	11.02	10.86	10.39	11.42
Al	5.45	5.80	5.22	5.80	4.90	6.08	5.64	5.38	5.88	5.21	4.98	5.13	5.57	4.56
Fe3+	0.02	0.03	0.03	0.05	0.03	0.07	0.04	0.02	0.02	0.01	0.01	0.03	0.05	0.03
Ca	1.38	1.75	1.22	1.78	0.89	2.02	1.57	1.32	1.78	1.19	0.97	1.07	1.61	0.60
Na	2.55	2.12	2.58	2.16	3.02	1.90	2.39	2.63	2.18	2.80	2.93	2.84	2.32	3.30
K	0.03	0.05	0.06	0.06	0.06	0.03	0.05	0.05	0.03	0.04	0.06	0.11	0.04	0.04
total	**19.99**	**19.96**	**19.90**	**20.02**	**19.99**	**20.00**	**20.03**	**20.02**	**20.02**	**20.03**	**19.97**	**20.03**	**19.98**	**19.95**
Or(%)	1	1	1	1	2	1	1	1	1	1	2	3	1	1
Ab (%)	64	54	67	54	76	48	60	66	55	70	74	71	58	84
An (%)	**35**	**45**	**32**	**45**	**22**	**51**	**39**	**33**	**45**	**29**	**25**	**27**	**40**	**15**
	15													

PROFILE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SERIES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROUP	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
UNIT	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite
DESCRIP	Pl core (B)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl rim (B)	Pl micro eued (C)	Pl micro eued (C)	Pl core (C)	Pl rim (C)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl rim (B)	Pl micro zon (C)
SAMPLE	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-15**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**
Label	1343 [5-4]	1348 [4-1]	1349 [4-2]	1387 [4-3]	1388 [4-4]	1389 [4-5]	1390 [4-6]	1391 [7-1]	1392 [7-3]	1984 [1-1]	1985 [1-2]	1986 [1-3]	1987 [1-4]	1988 [1-5]
SiO2	53.33	54.01	53.57	60.62	60.33	61.35	59.22	53.17	59.67	53.70	53.21	60.05	58.23	52.83
Al2O3	30.42	30.15	30.09	25.73	25.63	25.28	25.86	29.72	25.94	28.92	29.14	24.73	26.15	29.32
FeO(t)	0.07	0.38	0.11	0.11	0.06	0.03	0.11	0.17	0.11	0.70	0.08	0.07	0.07	0.13
CaO	11.56	11.50	11.61	6.95	7.15	6.84	7.42	11.96	7.56	10.37	11.70	6.79	8.04	11.95
Na2O	4.95	4.94	4.99	8.00	7.47	8.19	7.57	4.90	7.42	4.88	4.46	7.53	6.81	4.54
K2O	0.08	0.16	0.14	0.36	0.27	0.16	0.30	0.12	0.32	0.35	0.09	0.19	0.17	0.10
total	**100.40**	**101.15**	**100.51**	**101.76**	**100.91**	**101.83**	**100.49**	**100.04**	**101.03**	**98.93**	**98.69**	**99.36**	**99.47**	**98.86**
Atoms per formula unit														
Si	9.60	9.65	9.64	10.64	10.66	10.74	10.54	9.63	10.56	9.79	9.73	10.76	10.46	9.67
Al	6.45	6.35	6.38	5.32	5.34	5.22	5.43	6.34	5.41	6.22	6.28	5.22	5.54	6.32
Fe3+	0.01	0.06	0.02	0.02	0.01	0.00	0.02	0.03	0.02	0.11	0.01	0.01	0.01	0.02
Ca	2.23	2.20	2.24	1.31	1.35	1.28	1.41	2.32	1.43	2.03	2.29	1.30	1.55	2.34
Na	1.73	1.71	1.74	2.72	2.56	2.78	2.61	1.72	2.55	1.72	1.58	2.61	2.37	1.61
K	0.02	0.04	0.03	0.08	0.06	0.03	0.07	0.03	0.07	0.08	0.02	0.04	0.04	0.02
total	**20.04**	**20.02**	**20.05**	**20.09**	**19.98**	**20.06**	**20.08**	**20.06**	**20.04**	**19.95**	**19.92**	**19.95**	**19.97**	**19.98**
Or(%)	0	1	1	2	2	1	2	1	2	2	1	1	1	1
Ab (%)	43	43	43	66	64	68	64	42	63	45	41	66	60	41
An (%)	**56**	**56**	**56**	**32**	**34**	**31**	**35**	**57**	**35**	**53**	**59**	**33**	**39**	**59**

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Intergranular	Intergranular	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)
CLASIF	Diorite	Diorite	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)
DESCRIP	Pl core (C)	Pl core (B)	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (C)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)
SAMPLE	**CVD-19B**	**CVD-19B**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**	**CVD-19C**
Label	2161 [3-7]	2162 [3-8]	2165 [1-1]	2166 [1-2]	2205 [1-3]	2211 [2-1]	2212 [2-2]	2213 [2-3]	2218 [3-1]	2219 [3-2]	2220 [3-3]	2221 [3-4]	2222 [3-5]	2223 [3-6]
SiO2	54.25	56.98	59.28	59.46	60.77	58.50	58.76	59.21	63.76	61.78	63.96	63.23	61.48	61.41
Al2O3	28.91	27.16	26.30	26.19	25.98	26.00	26.41	25.86	23.79	24.07	22.92	23.74	23.86	24.54
FeO(t)	0.24	0.16	0.16	0.30	0.24	0.30	0.24	0.26	0.17	0.23	0.10	0.12	0.15	0.12
CaO	11.03	8.43	7.66	7.69	6.95	7.45	7.25	7.28	4.86	5.48	4.03	4.82	5.32	5.67
Na2O	5.38	7.30	7.42	7.51	7.57	7.27	7.24	7.43	8.49	8.29	8.98	8.56	8.22	8.11
K2O	0.17	0.13	0.19	0.19	0.16	0.00	0.16	0.17	0.32	0.17	0.46	0.29	0.38	0.38
total	**99.99**	**100.17**	**101.01**	**101.34**	**101.66**	**99.51**	**100.06**	**100.22**	**101.40**	**100.02**	**100.45**	**100.76**	**99.41**	**100.23**
Atoms per formula unit														
Si	9.81	10.22	10.49	10.50	10.65	10.49	10.48	10.55	11.12	10.96	11.25	11.10	10.98	10.88
Al	6.16	5.74	5.49	5.45	5.36	5.50	5.55	5.43	4.89	5.03	4.75	4.91	5.02	5.13
Fe3+	0.04	0.02	0.02	0.04	0.04	0.05	0.04	0.04	0.02	0.03	0.02	0.02	0.02	0.02
Ca	2.14	1.62	1.45	1.46	1.30	1.43	1.39	1.39	0.91	1.04	0.76	0.91	1.02	1.08
Na	1.89	2.54	2.55	2.57	2.57	2.53	2.50	2.57	2.87	2.85	3.06	2.91	2.85	2.79
K	0.04	0.03	0.04	0.04	0.03	0.00	0.04	0.04	0.07	0.04	0.10	0.06	0.09	0.09
total	**20.06**	**20.18**	**20.05**	**20.06**	**19.96**	**20.00**	**19.99**	**20.02**	**19.89**	**19.95**	**19.95**	**19.92**	**19.97**	**19.98**
Or(%)	1	1	1	1	1	0	1	1	2	1	3	2	2	2
Ab (%)	46	61	63	63	66	64	64	64	75	73	78	75	72	71
An (%)	**53**	**39**	**36**	**36**	**33**	**36**	**35**	**35**	**24**	**26**	**19**	**23**	**26**	**27**

PROFILE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SERIES	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROUP	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
UNIT	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite
DESCRIP	Pl micro zon (B)	Pl micro eued (C)	Pl micro eued (C)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl core (C)	Pl core (B)	Pl rim (C)	Pl rim (B)	Pl micro def (C)	Pl micro eued (C)	Pl core (C)	Pl core (B)
SAMPLE	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**	**MB-17**
Label	1989 [1-6]	1990 [1-7]	1991 [1-8]	1993 [2-1]	1994 [2-2]	1995 [2-3]	1996 [3-1]	1997 [3-2]	1998 [3-3]	1999 [3-4]	2000 [3-5]	2001 [3-6]	2005 [1-1]	2006 [1-2]
SiO2	59.20	60.26	58.41	53.95	53.28	59.43	53.41	52.52	60.42	61.28	60.15	61.13	53.43	53.44
Al2O3	25.63	24.33	26.09	28.51	29.55	25.41	29.61	29.51	24.77	24.84	25.53	24.51	30.82	30.94
FeO(t)	0.10	0.06	0.09	0.05	0.10	0.04	0.56	0.10	0.13	0.11	0.15	0.03	0.11	0.14
CaO	7.38	6.41	8.13	11.74	12.07	7.43	12.08	12.08	6.47	6.50	7.29	6.27	11.80	11.49
Na2O	7.21	7.95	7.00	4.89	4.56	7.42	4.62	4.68	7.85	7.96	7.52	7.83	4.64	4.54
K2O	0.07	0.20	0.10	0.09	0.11	0.04	0.09	0.08	0.23	0.18	0.07	0.12	0.08	0.07
total	**99.58**	**99.20**	**99.82**	**99.24**	**99.68**	**99.76**	**100.37**	**98.98**	**99.87**	**100.86**	**100.71**	**99.89**	**100.88**	**100.62**
Atoms per formula unit														
Si	10.60	10.81	10.46	9.82	9.67	10.62	9.64	9.61	10.77	10.81	10.65	10.87	9.57	9.58
Al	5.41	5.15	5.51	6.12	6.32	5.35	6.30	6.36	5.20	5.16	5.33	5.14	6.50	6.54
Fe3+	0.01	0.01	0.01	0.01	0.02	0.01	0.09	0.01	0.02	0.02	0.02	0.00	0.02	0.02
Ca	1.41	1.23	1.56	2.29	2.35	1.42	2.33	2.37	1.24	1.23	1.38	1.19	2.26	2.21
Na	2.50	2.77	2.43	1.73	1.61	2.57	1.62	1.66	2.71	2.72	2.58	2.70	1.61	1.58
K	0.02	0.05	0.02	0.02	0.02	0.01	0.02	0.02	0.05	0.04	0.02	0.03	0.02	0.02
total	**19.95**	**20.01**	**20.00**	**19.99**	**19.98**	**19.99**	**19.99**	**20.04**	**20.00**	**19.98**	**19.98**	**19.93**	**19.98**	**19.94**
Or(%)	0	1	1	1	1	0	0	0	1	1	0	1	0	0
Ab (%)	64	68	61	43	40	64	41	41	68	68	65	69	41	42
An (%)	**36**	**30**	**39**	**57**	**59**	**36**	**59**	**59**	**31**	**31**	**35**	**30**	**58**	**58**

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)
CLASIF	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)	Qz Diorite (matrix)
DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (C)	Pl (B)	Pl (B)	Pl (B)	Pl (C)	Pl (C)	Pl (B)
SAMPLE	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C
Label	2228 [4-1]	2229 [4-2]	2230 [4-3]	2236 [5-1]	2237 [5-2]	2238 [5-3]	2239 [5-4]	2240 [5-5]	2241[5-6]	2249 [6-2]	2250 [6-3]	2251[6-4]	2253 [6-6]	2254 [6-7]
SiO2	62.89	62.77	62.10	62.32	60.95	62.33	62.11	61.81	62.04	62.62	63.13	62.92	62.35	62.76
Al2O3	24.04	24.59	24.11	24.73	25.30	23.87	23.99	24.05	24.13	23.88	24.21	24.54	24.77	24.53
FeO(t)	0.18	0.13	0.10	0.11	0.13	0.20	0.16	0.15	0.19	0.17	0.16	0.10	0.14	0.24
CaO	5.24	5.68	5.48	5.65	6.43	5.02	5.54	5.16	5.33	4.99	5.31	5.48	5.71	5.20
Na2O	8.36	8.16	8.30	8.22	8.06	8.56	8.24	8.33	8.37	8.74	8.64	8.59	8.52	8.74
K2O	0.42	0.00	0.38	0.22	0.20	0.46	0.32	0.39	0.28	0.47	0.22	0.34	0.27	0.30
total	101.14	101.32	100.47	101.25	101.07	100.43	100.36	99.90	100.33	100.88	101.66	101.97	101.76	101.76
Atoms per formula unit														
Si	11.03	10.97	10.97	10.92	10.74	11.01	10.98	10.98	10.97	11.02	11.01	10.96	10.89	10.95
Al	4.97	5.06	5.02	5.11	5.25	4.97	5.00	5.03	5.03	4.95	4.98	5.04	5.10	5.04
Fe3+	0.03	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.02	0.01	0.02	0.03
Ca	0.98	1.06	1.04	1.06	1.21	0.95	1.05	0.98	1.01	0.94	0.99	1.02	1.07	0.97
Na	2.84	2.76	2.84	2.79	2.75	2.93	2.82	2.87	2.87	2.98	2.92	2.90	2.88	2.96
K	0.09	0.00	0.09	0.05	0.05	0.10	0.07	0.09	0.06	0.11	0.05	0.07	0.06	0.07
total	19.94	19.88	19.97	19.94	20.02	20.00	19.95	19.97	19.97	20.03	19.97	20.01	20.02	20.02
Or(%)	2	0	2	1	1	3	2	2	2	3	1	2	1	2
Ab (%)	72	72	72	72	69	74	72	73	73	74	74	73	72	74
An (%)	25	28	26	27	30	24	27	25	26	23	25	26	27	24

PROFILE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-
SERIES	-	-	-	-	-	-	-	-	-	ODV I	ODV I	ODV I	ODV I	ODV I
GROUP	BG	BG	BG	BG	BG	BG	BG	BG	BG	Low	Low	Low	Low	Low
UNIT	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)
CLASIF	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Tonalite	Tonalite	Tonalite	Tonalite	Tonalite
DESCRIP	Pl rim (C)	Pl micro def (C)	Pl micro def (C)	Pl micro eued (C)	Pl micro eued (C)	Pl core (C)	Pl core (B)	Pl core (C)	Pl core (B)	Pl zon (C)	Pl zon (B)	Pl (C)	Pl (B)	Pl zon (C)
SAMPLE	MB-17	MB-17	MB-17	MB-17	MB-17	MB-17	MB-17	MB-17	MB-17	ODV-G-43	ODV-G-43	ODV-G-43	ODV-G-43	ODV-G-43
Label	2007 [1-3]	2008 [1-5]	2009 [1-6]	2010 [1-7]	2011[1-8]	2014 [5-1]	2015 [5-2]	2016 [5-3]	2017 [5-4]	2289 [3-1]	2290 [3-2]	2293 [3-3]	2292 [3-4]	2293 [3-5]
SiO2	60.57	60.40	58.77	60.19	58.24	51.90	51.20	52.61	52.29	62.57	62.06	61.40	63.22	61.96
Al2O3	25.78	26.50	27.08	25.98	27.44	31.10	31.94	30.83	30.95	24.92	24.61	25.22	24.33	24.60
FeO(t)	0.08	0.08	0.11	0.12	0.07	0.25	0.13	0.13	0.16	0.14	0.15	0.23	0.12	0.18
CaO	6.25	6.75	7.58	6.49	8.11	12.70	13.37	12.17	11.90	5.40	5.50	5.96	4.77	5.51
Na2O	7.66	7.57	7.18	7.75	6.81	4.14	3.75	4.45	4.46	8.52	8.53	7.88	8.55	7.90
K2O	0.14	0.10	0.10	0.19	0.11	0.09	0.02	0.06	0.19	0.12	0.09	0.25	0.08	0.43
total	100.48	101.41	100.82	100.73	100.79	100.19	100.41	100.25	99.95	101.68	100.93	100.94	101.08	100.58
Atoms per formula unit														
Si	10.71	10.60	10.41	10.64	10.33	9.40	9.26	9.50	9.47	10.91	10.91	10.80	11.05	10.93
Al	5.37	5.48	5.65	5.41	5.74	6.64	6.81	6.56	6.61	5.12	5.10	5.23	5.01	5.11
Fe3+	0.01	0.01	0.02	0.02	0.01	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.03
Ca	1.18	1.27	1.44	1.23	1.54	2.46	2.59	2.35	2.31	1.01	1.04	1.12	0.89	1.04
Na	2.62	2.58	2.46	2.66	2.34	1.45	1.31	1.56	1.57	2.88	2.91	2.69	2.90	2.70
K	0.03	0.02	0.02	0.04	0.03	0.02	0.01	0.01	0.04	0.03	0.02	0.06	0.02	0.10
total	19.93	19.96	20.00	20.00	19.98	20.01	19.99	20.00	20.02	19.97	19.99	19.94	19.89	19.90
Or(%)	1	1	1	1	1	1	0	0	1	1	1	1	0	2
Ab (%)	68	67	63	68	60	37	34	40	40	74	73	70	76	70
An (%)	31	33	37	31	39	63	66	60	59	26	26	29	23	27

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	<	-	-	-	-	-	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	SB I	SB I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	Low			Int	Int	Int	Int	Int	Int	Int
UNIT	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric protoclastic	Granophyric protoclastic	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric	Granophyric
CLASIF	Tonalite	Tonalite	Tonalite	Tonalite	Tonalite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite	Alk F Granite
DESCRIP	Pl (C)	Pl (C)	Pl zoned (C)	Pl zoned (B)	Pl (C)	Ab (C)	Ab (B)	Ab (C)	Ab (B)	Ab (C)	Ab (B)	Ab (C)	Ab (C)	Ab (C)
SAMPLE	**ODV-2**	**ODV-2**	**ODV-2**	**ODV-2**	**ODV-2**	**RS-5**	**RS-5**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**	**SB-D1**
Label	M654 (1_1)	M657 (4_1)	M658 (4_2)	M660 (4_4)	M659 (4_3)	2365 [1-3]	2366 [1-4]	2440 [1-1]	2441[1-2]	1442 [1-3]	1443 [1-4]	2445 [1-6]	2446 [1-7]	2447 [1-8]
SiO2	55.80	58.07	55.15	58.67	64.43	68.34	68.74	68.72	69.24	68.91	69.18	68.24	67.99	67.90
Al2O3	27.99	26.19	28.23	25.93	22.16	20.16	20.79	20.20	20.10	20.51	20.25	20.61	20.53	20.33
FeO(t)	0.21	0.15	0.24	0.16	0.14	0.00	0.00	0.04	0.04	0.04	0.07	0.06	0.00	0.03
CaO	10.08	8.16	10.45	7.73	3.38	0.14	0.36	0.80	0.85	0.96	0.83	1.01	1.03	0.96
Na2O	5.48	6.72	5.41	6.67	9.57	11.36	11.65	11.20	11.18	10.93	11.28	10.86	11.03	10.90
K2O	0.13	0.22	0.14	0.16	0.21	0.14	0.06	0.31	0.16	0.20	0.18	0.27	0.16	0.25
total	**99.69**	**99.52**	**99.62**	**99.31**	**99.88**	**100.13**	**101.61**	**101.27**	**101.58**	**101.55**	**101.79**	**101.05**	**100.74**	**100.36**
Atoms per formula unit														
Si	10.06	10.44	9.97	10.53	11.38	11.91	11.83	11.88	11.92	11.86	11.89	11.82	11.81	11.84
Al	5.95	5.55	6.01	5.49	4.61	4.14	4.22	4.12	4.08	4.16	4.10	4.21	4.20	4.18
Fe3+	0.03	0.02	0.04	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Ca	1.95	1.57	2.02	1.49	0.64	0.03	0.07	0.15	0.16	0.18	0.15	0.19	0.19	0.18
Na	1.91	2.34	1.90	2.32	3.27	3.84	3.89	3.75	3.73	3.65	3.76	3.65	3.72	3.68
K	0.03	0.05	0.03	0.04	0.05	0.03	0.01	0.07	0.04	0.04	0.04	0.06	0.04	0.06
total	**19.93**	**19.97**	**19.97**	**19.89**	**19.97**	**19.95**	**20.01**	**19.97**	**19.93**	**19.90**	**19.95**	**19.93**	**19.96**	**19.94**
Or(%)	1	1	1	1	1	1	0	2	1	1	1	2	1	1
Ab (%)	49	59	48	60	83	99	98	95	95	94	95	94	94	94
An (%)	**50**	**40**	**51**	**39**	**16**	**1**	**2**	**4**	**4**	**5**	**4**	**5**	**5**	**5**

PROFILE	-	-	-	-	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SERIES	ODV I	ODV I	ODV I	ODV I	-	-	-	-	-	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Low	Low	Low	Low	BG	BG	BG	BG	BG	Int	Int	Int	Int	Int
UNIT	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular
CLASIF	Tonalite	Tonalite	Tonalite	Tonalite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Trondhjemite	Trondhjemite	Trondhjemite	Trondhjemite	Trondhjemite
DESCRIP	Pl zon (B)	Pl zon (C)	Pl zon (C)	Pl zon (B)	Pl core (B)	Pl micro def (C)	Pl micro def (C)	Pl core (C)	Pl rim (C)	Pl core (C)	Pl Core (B)	Pl rim (C)	Pl core (C)	Pl Core (B)
SAMPLE	**ODV-G-43**	**ODV-G-43**	**ODV-G-43**	**ODV-G-43**	**MB-3**	**MB-3**	**MB-3**	**MB-3**	**MB-3**	**SB-D2**	**SB-D2**	**SB-D2**	**SB-D2**	**SB-D2**
Label	2294 [3-6]	2297 [5-1]	2299 [5-3]	2300 [5-4]	1880 [5-3]	1886 [6-6]	1887 [6-7]	1888 [6-8]	1889 [6-9]	2392 [1-1]	2393 [1-2]	2394 [1-3]	2395 [1-4]	2396 [1-5]
SiO2	62.42	62.30	60.23	63.26	60.97	61.56	61.95	57.75	62.18	63.06	62.99	63.66	62.92	62.89
Al2O3	24.43	24.66	25.47	23.91	25.26	25.96	25.26	27.48	25.00	24.16	23.77	23.86	23.96	23.89
FeO(t)	0.15	0.14	0.15	0.13	0.05	0.10	0.11	0.21	0.09	0.06	0.09	0.03	0.13	0.13
CaO	5.13	5.32	6.48	4.79	5.76	6.00	5.71	8.06	5.11	4.94	4.38	4.42	4.62	4.50
Na2O	8.34	8.31	7.80	8.71	7.84	7.78	8.14	6.60	8.59	8.76	8.89	9.03	8.74	8.92
K2O	0.19	0.24	0.21	0.00	0.07	0.08	0.07	0.21	0.08	0.44	0.32	0.08	0.27	0.19
total	**100.66**	**100.96**	**100.35**	**100.79**	**99.95**	**101.48**	**101.25**	**100.31**	**101.06**	**101.41**	**100.45**	**101.08**	**100.64**	**100.52**
Atoms per formula unit														
Si	10.98	10.94	10.69	11.09	10.81	10.76	10.85	10.29	10.90	11.03	11.10	11.13	11.07	11.07
Al	5.07	5.10	5.33	4.94	5.28	5.35	5.21	5.77	5.17	4.98	4.94	4.92	4.97	4.96
Fe3+	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.03	0.01	0.01	0.01	0.00	0.02	0.02
Ca	0.97	1.00	1.23	0.90	1.09	1.12	1.07	1.54	0.96	0.93	0.83	0.83	0.87	0.85
Na	2.84	2.83	2.68	2.96	2.70	2.64	2.76	2.28	2.92	2.97	3.04	3.06	2.98	3.04
K	0.04	0.05	0.05	0.00	0.02	0.02	0.02	0.05	0.02	0.10	0.07	0.02	0.06	0.04
total	**19.92**	**19.94**	**20.00**	**19.91**	**19.90**	**19.89**	**19.93**	**19.97**	**19.98**	**20.01**	**19.98**	**19.95**	**19.96**	**19.98**
Or(%)	1	1	1	0	0	0	0	1	0	2	2	0	2	1
Ab (%)	74	73	68	77	71	70	72	59	75	74	77	78	76	77
An (%)	**25**	**26**	**31**	**23**	**29**	**30**	**28**	**40**	**25**	**23**	**21**	**21**	**22**	**22**

Table C.9- EPMA results for plagioclase included in BIC mesocratic rocks (cont)

PROFILE	3.00	3.00	3.00	3.00
SERIES	BRGI	BRGI	BRGI	BRGI
GROUP	Int	Int	Int	Int
UNIT	Intergranular	Intergranular	Intergranular	Intergranular
CLASIF	Trondhjemite	Trondhjemite	Trondhjemite	Trondhjemite
DESCRIP	Pl rim (C)	Pl core (C)	Pl Core (B)	Pl rim (C)
SAMPLE	SB-D2	SB-D2	SB-D2	SB-D2
Label	2397 [1-6]	2398 [2-1]	2399 [2-2]	2400 [2-3]
SiO2	63.67	62.05	65.55	65.28
Al2O3	23.71	24.48	22.52	22.61
FeO(t)	0.08	0.13	0.06	0.02
CaO	4.05	5.21	2.97	3.09
Na2O	9.37	8.57	9.99	9.90
K2O	0.09	0.12	0.09	0.07
total	100.98	100.55	101.18	100.97
Atoms per formula unit				
Si	11.14	10.94	11.41	11.38
Al	4.89	5.09	4.62	4.65
Fe3+	0.01	0.02	0.01	0.00
Ca	0.76	0.98	0.55	0.58
Na	3.18	2.93	3.37	3.35
K	0.02	0.03	0.02	0.01
total	20.01	19.98	19.98	19.97
Or(%)	1	1	1	0
Ab (%)	80	74	85	85
An (%)	19	25	14	15

Table C.9A- EPMA results for alkaline feldspar included in BIC mesocratic/felsic rocks and plagioclase at host gabbro contacts.

PROFILE	-	-	-	3.00	3.00	3.00	3.00	3.00	3.00	-
SERIES	ODV I	ODV I	ODV I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	ODV III
GROUP	Low	Low	Low	Int	Int	Int	Int	Int	Int	Low
UNIT	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Intergranular (breccia)
CLASIF	Tonalite - Amph Gb host	Tonalite - Amph Gb host	Tonalite - Amph Gb host	Anort	Anort	Anort	Anort	Anort	Anort	Qz Diorite (matrix)
DESCRIP	Pl (C)	Pl (B)	Pl (C)	Pl ©	Pl (B)	Pl intc	Pl ©	Pl (B)	Pl intc	Alk F-intergrowth
SAMPLE	**ODV-G-43**	**ODV-G-43**	**ODV-G-43**	**SB-4**	**SB-4**	**SB-4**	**SB-4**	**SB-4**	**SB-4**	**CVD-19C**
Label	2280 [1-3]	2281[1-4]	2282 [1-5]	547 (1_1)	548 (1_2)	549 (1_3)	551(3_1)	552 (3_2)	553 (3_3)	2248 [6-1]
SiO2	56.51	55.92	55.47	49.48	49.83	56.42	49.53	49.50	56.94	65.92
Al2O3	28.16	28.46	28.89	31.68	32.29	27.80	32.23	32.01	28.03	18.96
FeO(t)	0.26	0.12	0.20	0.39	0.05	0.16	0.37	0.34	0.12	0.07
CaO	9.16	9.38	9.94	14.05	14.27	9.30	14.67	14.40	9.33	0.00
Na2O	5.97	5.71	5.44	3.07	2.99	5.92	2.98	3.05	6.12	0.96
K2O	0.27	0.17	0.20	0.10	0.00	0.09	0.07	0.00	0.02	15.31
total	**100.33**	**99.76**	**100.14**	**98.77**	**99.43**	**99.69**	**99.86**	**99.29**	**100.55**	**101.22**
Atoms per formula unit										
Si	10.11	10.05	9.95	9.12	9.11	10.15	9.05	9.08	10.15	11.98
Al	5.94	6.03	6.11	6.88	6.96	5.89	6.94	6.92	5.89	4.06
Fe3+	0.04	0.02	0.03	0.06	0.01	0.02	0.06	0.05	0.02	0.01
Ca	1.76	1.81	1.91	2.78	2.80	1.79	2.87	2.83	1.78	0.00
Na	2.07	1.99	1.89	1.10	1.06	2.06	1.06	1.09	2.11	0.34
K	0.06	0.04	0.05	0.02	0.00	0.02	0.02	0.00	0.00	3.55
total	**19.97**	**19.94**	**19.95**	**19.96**	**19.93**	**19.94**	**19.99**	**19.97**	**19.96**	**19.93**
Or(%)	2	1	1	1	0	1	0	0	0	91
Ab (%)	53	52	49	28	27	53	27	28	54	9
An (%)	**45**	**47**	**50**	**71**	**73**	**46**	**73**	**72**	**46**	**0**

PROFILE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SERIES	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I	BRG I
GROUP	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III	Ol Leucog III
CLASIF	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic	Anort-felsic
DESCRIP	Pl relic (C)	Pl relic (B)	Pl intergranular	Pl relic (C)	Pl relic (B)	Pl intergranular	Pl relic (C)	Pl intergranular	Pl intergranular	Pl relic-intergranular	Pl intergranular	Pl intergranular
SAMPLE	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**	**SB-D5-1**
Label	2471[1-1]	2472 [1-2]	2473 [1-3]	2474 [1-4]	2475 [1-5]	2476 [1-6]	2477 [2-1]	2478 [2-2]	2479 [2-3]	2480 [2-4]	2481[2-5]	2482 [2-6]
SiO2	49.17	49.43	58.18	48.38	50.40	56.74	49.72	59.47	58.05	57.44	56.80	57.45
Al2O3	32.26	32.28	26.63	32.45	32.23	26.64	32.59	26.23	26.57	27.09	27.49	27.05
FeO(t)	0.32	0.32	0.14	0.28	0.09	0.09	0.33	0.16	0.10	0.05	0.06	0.10
CaO	14.89	14.42	8.22	14.49	14.07	8.31	14.87	7.54	7.96	8.71	9.12	8.71
Na2O	2.86	3.01	6.43	2.84	3.11	6.79	2.91	7.40	7.28	6.82	6.36	6.71
K2O	0.06	0.04	0.04	0.04	0.02	0.04	0.04	0.07	0.08	0.07	0.05	0.04
total	**99.56**	**99.51**	**99.66**	**98.48**	**99.92**	**98.61**	**100.46**	**100.87**	**100.04**	**100.20**	**99.87**	**100.06**
Atoms per formula unit												
Si	9.02	9.05	10.42	8.96	9.16	10.30	9.03	10.52	10.39	10.28	10.20	10.29
Al	6.97	6.97	5.62	7.08	6.91	5.70	6.97	5.47	5.60	5.71	5.82	5.71
Fe3+	0.05	0.05	0.02	0.04	0.01	0.01	0.05	0.02	0.01	0.01	0.01	0.01
Ca	2.92	2.83	1.58	2.87	2.74	1.62	2.89	1.43	1.53	1.67	1.75	1.67
Na	1.02	1.07	2.23	1.02	1.10	2.39	1.03	2.54	2.53	2.37	2.21	2.33
K	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01
total	**19.99**	**19.98**	**19.88**	**19.99**	**19.93**	**20.04**	**19.98**	**20.01**	**20.07**	**20.05**	**20.00**	**20.02**
Or(%)	0	0	0	0	0	0	0	0	0	0	0	0
Ab (%)	26	27	58	26	29	59	26	64	62	58	56	58
An (%)	**74**	**72**	**41**	**74**	**71**	**40**	**74**	**36**	**38**	**41**	**44**	**42**

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks.

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV I	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Upp	Upp	Upp
UNIT	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Ophitic	Intergranular (Brecciated)	Intergranular (Brecciated)	Intergranular (Brecciated)	Pegmatoidal	Pegmatoidal	Pegmatoidal
CLASIF	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Diorite/Amf Gb	Tonalite - Amph Gb	Tonalite - Amph Gb	Tonalite - Amph Gb	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)
DESCRIP	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Amph Gb	Hbl Br Poik (B)	Hbl Br Poik (B)	Hbl Br Poik (C)	Amp I (C)	Amp I (CB)	Amp I (B)
SAMPLE	ODV-D1	ODV-D1	ODV-D1	ODV-D1	ODV-D1	ODV-D1	ODV-D1	ODV-D1	ODV-G-43	ODV-G-43	ODV-G-43	CVD-5	CVD-5	CVD-5
Label	2303 [1-1]	2304 [1-2]	2309 [1-13]	2310 [1-14]	2311 [2-1]	2312 [2-2]	2313 [2-3]	2314 [2-4]	2287 [2-5]	2288 [2-6]	2286 [2-4]	750 [2-1]	751 [2-2]	752 [2-3]
SiO2	43.92	44.20	43.73	43.96	44.01	45.64	43.38	44.02	42.46	42.74	42.05	52.29	47.90	51.33
TiO2	2.41	2.12	2.39	2.57	2.48	2.24	2.51	2.57	2.24	3.23	3.43	0.13	1.61	0.81
Al2O3	9.19	9.18	9.16	9.07	9.16	8.91	9.23	9.41	10.44	9.81	10.22	3.80	6.91	4.77
Cr2O3	0.00	0.00	0.00	0.04	0.03	0.05	0.00	0.03	0.05	0.05	0.00			
MgO	10.46	10.41	10.30	10.42	10.43	11.22	10.41	10.68	10.38	10.01	10.38	15.01	15.48	16.15
CaO	10.79	10.95	11.06	11.05	10.56	10.92	10.67	10.55	10.91	10.79	10.41	12.21	11.21	11.67
MnO	0.21	0.16	0.21	0.17	0.22	0.21	0.19	0.25	0.21	0.27	0.19	0.23	0.18	0.16
FeO	17.62	18.07	17.81	18.33	17.74	16.25	17.99	17.19	16.44	16.31	15.94	13.34	11.71	11.52
Na2O	1.50	1.42	1.41	1.41	1.58	1.26	1.58	1.48	1.24	1.74	2.08	0.34	1.59	0.85
K2O	1.02	1.06	1.07	1.06	1.04	0.97	1.05	1.03	0.88	0.79	0.78	0.23	0.58	0.44
Total	**97.13**	**97.57**	**97.13**	**98.08**	**97.24**	**97.66**	**97.00**	**97.22**	**95.25**	**95.74**	**95.47**	**97.57**	**97.16**	**97.69**
T														
Si	6.60	6.62	6.60	6.57	6.61	6.76	6.54	6.59	6.48	6.52	6.42	7.54	6.95	7.35
Al IV	1.40	1.38	1.40	1.43	1.39	1.24	1.46	1.41	1.52	1.48	1.58	0.46	1.05	0.65
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C														
Al VI	0.23	0.24	0.22	0.17	0.23	0.31	0.19	0.25	0.35	0.28	0.25	0.19	0.13	0.15
Ti	0.27	0.24	0.27	0.29	0.28	0.25	0.28	0.29	0.26	0.37	0.39	0.01	0.18	0.09
Fe3+	0.33	0.33	0.29	0.33	0.35	0.27	0.37	0.36	0.35	0.17	0.24	0.20	0.34	0.28
Cr	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Mg	2.35	2.33	2.32	2.32	2.33	2.47	2.34	2.38	2.36	2.28	2.36	3.23	3.35	3.44
Fe2+	1.82	1.86	1.91	1.88	1.81	1.69	1.82	1.71	1.68	1.90	1.75	1.37	1.01	1.04
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B														
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.07	0.07	0.06	0.07	0.07	0.05	0.08	0.07	0.07	0.01	0.04	0.04	0.07	0.06
Mn	0.03	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.02	0.02
Ca	1.74	1.76	1.79	1.77	1.70	1.73	1.72	1.69	1.78	1.76	1.70	1.89	1.74	1.79
Na	0.17	0.15	0.13	0.13	0.20	0.19	0.17	0.20	0.12	0.19	0.23	0.05	0.16	0.13
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A														
Na	0.27	0.27	0.28	0.28	0.26	0.17	0.29	0.23	0.25	0.32	0.38	0.05	0.29	0.11
K	0.20	0.20	0.21	0.20	0.20	0.18	0.20	0.20	0.17	0.15	0.15	0.04	0.11	0.08
TOTAL A	**0.46**	**0.47**	**0.49**	**0.48**	**0.46**	**0.35**	**0.50**	**0.42**	**0.42**	**0.48**	**0.54**	**0.09**	**0.39**	**0.19**
Vacancies	*0.54*	*0.53*	*0.51*	*0.52*	*0.54*	*0.65*	*0.50*	*0.58*	*0.58*	*0.52*	*0.46*	*0.91*	*0.61*	*0.81*
#Mg=Mg/(F	0.514	0.507	0.508	0.503	0.512	0.552	0.508	0.525	0.530	0.522	0.537	0.667	0.702	0.714

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Upp	Low
UNIT	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Pegmatoidal	Sub-Ophitic
CLASIF	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Qz Diorite
DESCRIP	Amp I (C)	Amp I (B)	Amp I (C) Ttn	Amp I (C) Ttn	Amp II (C)	Amp II (B)	Amp II (C)	Amp II (B)	Amp II (C1)	Amp II (B1)	Amp II (C2)	Amp II (B2)	Amp I inc Carb (C)	Hbl Gr (C)	
SAMPLE	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-5	CVD-19	
Label	754 [3-1]	755 [3-2]	758 [3-5]	759 [4-1]	771[6-1]	772 [6-2]	773 [7-1]	774 [7-2]	777 [8-1]	778 [8-2]	779 [8-3]	780 [8-4]	781[8-5]	2095 [1-4]	
SiO2	52.31	52.55	52.93	51.30	54.16	54.55	51.52	54.37	51.06	52.38	55.18	54.33	52.44	49.90	
TiO2	0.52	0.54	0.08	0.83	0.19	0.24	0.57	0.05	0.88	0.50	0.04	0.15	0.59	1.16	
Al2O3	3.77	3.67	1.35	4.36	2.50	2.44	4.29	2.52	4.68	3.28	1.22	2.10	3.72	5.48	
Cr2O3														0.12	
MgO	16.67	17.10	14.70	16.16	16.90	16.89	15.92	16.46	16.16	17.32	14.57	14.67	17.19	14.08	
CaO	12.04	12.10	12.41	11.97	12.07	12.20	12.05	12.51	11.68	11.91	12.52	12.39	12.00	11.78	
MnO	0.24	0.17	0.39	0.20	0.16	0.20	0.21	0.22	0.21	0.14	0.39	0.44	0.22	0.21	
FeO	11.19	10.69	14.20	11.21	10.61	10.37	11.32	10.74	11.41	10.01	14.60	13.41	10.48	13.41	
Na2O	0.58	0.71	0.14	0.79	0.39	0.45	0.69	0.36	0.95	0.60	0.15	0.16	0.66	0.64	
K2O	0.27	0.25	0.01	0.37	0.12	0.13	0.33	0.04	0.43	0.25	0.01	0.03	0.30	0.49	
Total	**97.60**	**97.79**	**96.20**	**97.19**	**97.09**	**97.47**	**96.91**	**97.27**	**97.46**	**96.37**	**98.69**	**97.68**	**97.59**	**97.27**	
T														1.63	
Si	7.47	7.48	7.78	7.39	7.74	7.76	7.44	7.77	7.33	7.53	7.91	7.84	7.47	7.26	
Al IV	0.53	0.52	0.22	0.61	0.26	0.24	0.56	0.23	0.67	0.47	0.09	0.16	0.53	0.74	
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	
C															
Al VI	0.11	0.09	0.01	0.13	0.16	0.17	0.17	0.19	0.12	0.09	0.12	0.19	0.09	0.20	
Ti	0.06	0.06	0.01	0.09	0.02	0.03	0.06	0.01	0.09	0.05	0.00	0.02	0.06	0.13	
Fe3+	0.26	0.25	0.19	0.21	0.08	0.07	0.18	0.06	0.26	0.24	0.00		0.27	0.20	
Cr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	
Mg	3.55	3.63	3.22	3.47	3.60	3.58	3.43	3.51	3.46	3.71	3.11	3.15	3.65	3.06	
Fe2+	1.03	0.98	1.55	1.11	1.13	1.15	1.16	1.23	1.06	0.91	1.75	1.63	0.93	1.40	
Mn	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.00	
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	
B															
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fe2+	0.05	0.05	0.00	0.03	0.05	0.01	0.03	0.00	0.05	0.06	0.00	0.00	0.05	0.03	
Mn	0.03	0.02	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.02	0.03	0.04	0.03	0.03	
Ca	1.84	1.84	1.95	1.85	1.85	1.86	1.86	1.92	1.80	1.83	1.92	1.91	1.83	1.84	
Na	0.08	0.09	0.02	0.09	0.08	0.10	0.08	0.07	0.13	0.09	0.04	0.04	0.09	0.10	
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	
A															
Na	0.08	0.11	0.02	0.13	0.03	0.02	0.11	0.03	0.14	0.08	0.00	0.00	0.09	0.08	
K	0.05	0.05	0.00	0.07	0.02	0.02	0.06	0.01	0.08	0.05	0.00	0.01	0.05	0.09	
TOTAL A	**0.13**	**0.16**	**0.02**	**0.19**	**0.05**	**0.05**	**0.17**	**0.04**	**0.22**	**0.12**	**0.00**	**0.01**	**0.14**	**0.17**	
Vacancies	*0.87*	*0.84*	*0.98*	*0.81*	*0.95*	*0.95*	*0.83*	*0.96*	*0.78*	*0.88*	*100*	*0.99*	*0.86*	*0.83*	
#Mg=Mg/(F	0.726	0.740	0.649	0.720	0.740	0.744	0.715	0.732	0.716	0.755	0.640	0.661	0.745	0.652	

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Sub-Ophitic	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)
CLASIF	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (rim)	Qz Diorite (matrix)
DESCRIP	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)
SAMPLE	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C
Label	2096 [1-5]	2103 [2-7]	2104 [2-8]	2110 [3-6]	2111 [3-7]	2115 [4-4]	2116 [4-5]	2117 [5-1]	2118 [5-2]	2224 [3-7]	2225 [3-8]	2226 [3-9]	2227 [3-10]	2242 [5-7]
SiO2	49.79	48.58	48.49	50.41	50.72	49.48	49.32	50.29	50.23	47.36	47.92	44.97	47.52	48.84
TiO2	1.18	1.42	1.27	0.80	0.46	0.98	1.25	0.81	1.00	1.35	1.29	1.96	1.33	1.24
Al2O3	5.21	6.18	5.77	4.83	4.22	5.66	5.65	5.19	4.96	6.24	5.71	7.82	5.64	4.99
Cr2O3	0.13	0.06	0.12	0.03	0.07	0.13	0.10	0.04	0.01	0.02	0.00	0.00	0.05	0.00
MgO	14.01	13.67	13.40	14.52	14.30	13.87	13.65	13.95	14.68	11.07	11.23	9.68	11.15	11.61
CaO	11.76	11.66	12.08	12.23	12.34	12.13	12.02	12.50	11.99	11.14	11.25	11.28	11.37	11.68
MnO	0.27	0.34	0.32	0.32	0.30	0.23	0.31	0.25	0.34	0.31	0.34	0.34	0.38	0.32
FeO	13.79	14.00	14.38	13.67	13.93	13.90	14.34	13.72	13.47	18.40	17.34	19.40	17.78	17.57
Na2O	0.62	0.81	0.74	0.57	0.46	0.59	0.72	0.51	0.63	1.03	1.00	1.22	0.88	0.92
K2O	0.44	0.61	0.53	0.43	0.30	0.53	0.49	0.49	0.42	0.65	0.54	0.78	0.58	0.40
Total	**97.20**	**97.35**	**97.09**	**97.82**	**97.08**	**97.49**	**97.85**	**97.75**	**97.73**	**97.56**	**96.61**	**97.44**	**96.67**	**97.58**
T	1.68	1.71	1.77	1.66	1.70	1.69	1.75	1.67	1.63	2.29	2.17	2.45	2.23	2.18
Si	7.26	7.11	7.14	7.30	7.40	7.22	7.19	7.32	7.27	7.05	7.18	6.79	7.14	7.25
Al IV	0.74	0.89	0.86	0.70	0.60	0.78	0.81	0.68	0.73	0.95	0.82	1.21	0.86	0.75
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C														
Al VI	0.16	0.17	0.14	0.13	0.13	0.19	0.16	0.20	0.12	0.15	0.19	0.18	0.14	0.12
Ti	0.13	0.16	0.14	0.09	0.05	0.11	0.14	0.09	0.11	0.15	0.15	0.22	0.15	0.14
Fe3+	0.23	0.26	0.22	0.26	0.25	0.21	0.21	0.12	0.29	0.33	0.21	0.27	0.25	0.19
Cr	0.01	0.01	0.01	0.00	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00
Mg	3.05	2.98	2.94	3.13	3.11	3.02	2.97	3.03	3.17	2.46	2.51	2.18	2.50	2.57
Fe2+	1.42	1.43	1.55	1.39	1.45	1.46	1.52	1.55	1.32	1.91	1.95	2.15	1.96	1.98
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B														
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.03	0.03	0.00	0.01	0.00	0.02	0.02	0.00	0.02	0.05	0.02	0.03	0.02	0.01
Mn	0.03	0.04	0.04	0.04	0.03	0.03	0.04	0.02	0.04	0.04	0.04	0.04	0.05	0.04
Ca	1.84	1.83	1.91	1.90	1.93	1.90	1.88	1.95	1.86	1.78	1.81	1.83	1.83	1.86
Na	0.09	0.10	0.05	0.05	0.04	0.06	0.07	0.03	0.07	0.13	0.13	0.10	0.10	0.09
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A														
Na	0.08	0.13	0.16	0.11	0.09	0.11	0.14	0.12	0.10	0.17	0.16	0.26	0.16	0.17
K	0.08	0.11	0.10	0.08	0.05	0.10	0.09	0.09	0.08	0.12	0.10	0.15	0.11	0.08
TOTAL A	**0.16**	**0.24**	**0.26**	**0.19**	**0.15**	**0.21**	**0.23**	**0.21**	**0.18**	**0.29**	**0.26**	**0.41**	**0.27**	**0.25**
Vacancies	*0.84*	*0.76*	*0.74*	*0.81*	*0.85*	*0.79*	*0.77*	*0.79*	*0.82*	*0.71*	*0.74*	*0.59*	*0.73*	*0.75*
#Mg=Mg/(F	0.644	0.635	0.624	0.654	0.647	0.640	0.629	0.644	0.660	0.518	0.536	0.471	0.528	0.541

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks (cont)

PROFILE	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
UNIT	Intergranular (breccia)	Intergranular (breccia)	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)	Intergranular (breccia)
CLASIF	Qz Diorite (matrix)	Qz Diorite (matrix)	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)	Diorite (enclave)
DESCRIP	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (B)	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr (B)
SAMPLE	CVD-19C	CVD-19C	CVD-19B	CVD-19B	CVD-19B	CVD-19B	CVD-19B	CVD-19B	CVD-19B	CVD-19C	CVD-19C	CVD-19C	CVD-19C	CVD-19C
Label	2244 [5-9]	2245 [5-10]	2146 [1-6]	2147 [1-7]	2155 [2-11]	2156 [2-12]	2157 [2-13]	2163 [3-9]	2164 [3-10]	2206 [1-5]	2207 [1-6]	2208 [1-7]	2209 [1-8]	2215 [2-7]
SiO2	47.91	47.54	50.91	50.26	49.11	52.37	50.93	49.54	44.29	52.75	49.09	49.19	49.00	50.30
TiO2	1.08	1.10	0.75	0.60	0.81	0.49	0.77	0.94	2.08	0.20	0.55	0.57	0.58	0.58
Al2O3	6.44	6.64	3.77	4.18	5.34	2.83	3.72	4.04	7.94	3.27	5.93	6.00	5.99	5.36
Cr2O3	0.02	0.01	0.05	0.03	0.05	0.00	0.02	0.00	0.00	0.17	0.15	0.42	0.19	0.19
MgO	11.23	11.19	13.20	12.70	12.24	13.84	13.21	12.38	9.72	15.40	13.29	13.03	13.13	13.72
CaO	12.53	12.16	11.65	11.69	11.75	11.93	11.55	10.53	10.28	11.83	11.52	11.63	11.56	11.62
MnO	0.26	0.29	0.27	0.21	0.21	0.26	0.28	0.31	0.35	0.30	0.33	0.29	0.35	0.29
FeO	17.61	17.40	15.31	15.86	16.12	15.21	16.15	17.50	20.03	13.29	15.11	15.28	14.94	14.06
Na2O	0.88	0.88	0.57	0.54	0.64	0.44	0.69	0.74	1.40	0.45	0.81	0.83	0.79	0.77
K2O	0.61	0.62	0.30	0.37	0.51	0.22	0.27	0.36	0.59	0.24	0.48	0.52	0.52	0.44
Total	**98.56**	**97.84**	**96.79**	**96.43**	**96.79**	**97.58**	**97.58**	**96.34**	**96.68**	**97.88**	**97.25**	**97.75**	**97.05**	**97.33**
T	2.18	2.16	1.89	1.97	2.00	1.85	1.98	2.18	2.54	1.60	1.85	1.87	1.84	1.71
Si	7.08	7.06	7.50	7.45	7.29	7.63	7.45	7.40	6.71	7.58	7.19	7.19	7.20	7.33
Al IV	0.92	0.94	0.50	0.55	0.71	0.37	0.55	0.60	1.29	0.42	0.81	0.81	0.80	0.67
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C														
Al VI	0.20	0.23	0.15	0.18	0.22	0.12	0.10	0.11	0.13	0.14	0.22	0.23	0.24	0.25
Ti	0.12	0.12	0.08	0.07	0.09	0.05	0.08	0.11	0.24	0.02	0.06	0.06	0.06	0.06
Fe3+	0.12	0.16	0.17	0.18	0.18	0.14	0.25	0.26	0.52	0.18	0.34	0.28	0.28	0.22
Cr	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.02	0.05	0.02	0.02
Mg	2.47	2.48	2.90	2.81	2.71	3.01	2.88	2.75	2.20	3.30	2.90	2.84	2.88	2.98
Fe2+	2.05	2.00	1.69	1.76	1.79	1.69	1.68	1.77	1.92	1.34	1.46	1.55	1.51	1.46
Mn	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B														
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.00	0.00	0.02	0.03	0.03	0.03	0.04	0.15	0.10	0.08	0.05	0.04	0.04	0.03
Mn	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Ca	1.98	1.94	1.84	1.86	1.87	1.86	1.81	1.68	1.67	1.82	1.81	1.82	1.82	1.81
Na	0.01	0.03	0.10	0.09	0.08	0.08	0.11	0.13	0.18	0.07	0.10	0.10	0.10	0.12
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A														
Na	0.24	0.22	0.06	0.07	0.10	0.05	0.08	0.09	0.23	0.06	0.13	0.14	0.13	0.09
K	0.12	0.12	0.06	0.07	0.10	0.04	0.05	0.07	0.11	0.04	0.09	0.10	0.10	0.08
TOTAL A	**0.36**	**0.34**	**0.11**	**0.14**	**0.20**	**0.09**	**0.13**	**0.16**	**0.34**	**0.10**	**0.22**	**0.23**	**0.22**	**0.18**
Vacancies	*0.64*	*0.66*	*0.89*	*0.86*	*0.80*	*0.91*	*0.87*	*0.84*	*0.66*	*0.90*	*0.78*	*0.77*	*0.78*	*0.82*
#Mg=Mg/(F	0.532	0.534	0.606	0.588	0.575	0.619	0.593	0.558	0.464	0.674	0.611	0.603	0.610	0.635

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks (cont)

PROFILE	-	-	0	0	0	0	0	0	0	0	0	0	0	0
SERIES	ODV III	ODV III	-	-	-	-	-	-	-	-	-	-	-	-
GROUP	Low	Low	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG	BG
UNIT	Intergranular (breccia)	Intergranular (breccia)	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Diorite (enclave)	Diorite (enclave)	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite
DESCRIP	Hbl Gr (C)	Hbl Gr (C)	Hbl Gr newf (C)	Hbl Gr newf (B)	Hbl Gr_O_ Px (C)	Hbl Gr_O_Px (C)	Hbl Gr_O_ Px (C)	Hbl Gr newf (C)	Hbl Gr newf (C)	Hbl Gr newf (B)	Hbl Gr newf (C)	Hbl Gr newf (C)	Hbl Gr newf (C)	Hbl Gr newf (C)
SAMPLE	CVD-19C	CVD-19C	MB-15	MB-15	MB-15	MB-15	MB-15	MB-15	MB-15	MB-15	MB-17	MB-17	MB-17	MB-17
Label	2216 [2-8]	2217 [2-9]	1335 [1-5]	1336 [1-6]	1339 [2-3]	1340 [2-5]	1341 [2-5]	1344 [5-5]	1394 [7-7]	1395 [7-8]	1992 [1-9]	2002 [3-7]	2003 [3-8]	2004 [3-9]
SiO2	50.86	48.68	49.97	50.54	53.32	52.12	47.73	54.18	52.29	50.66	47.61	50.91	49.15	48.79
TiO2	0.30	0.70	0.96	0.87	0.56	0.58	1.23	0.03	0.68	0.84	0.64	0.43	0.76	0.79
Al2O3	4.60	6.11	6.01	4.93	2.94	4.26	7.27	3.30	3.69	5.27	7.60	4.49	6.46	6.13
Cr2O3	0.36	0.07	0.05	0.02	0.03	0.03	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00
MgO	14.57	13.30	13.57	13.96	16.44	15.73	13.13	16.76	14.98	13.93	13.40	14.94	13.78	13.45
CaO	11.70	11.36	10.99	11.09	11.49	11.72	11.60	10.84	11.82	11.76	10.96	10.93	10.64	10.65
MnO	0.32	0.36	0.23	0.31	0.23	0.22	0.21	0.30	0.30	0.28	0.24	0.35	0.29	0.29
FeO	13.57	14.93	14.72	14.04	11.52	11.93	13.95	11.61	13.39	13.74	14.55	13.74	14.59	14.74
Na2O	0.58	0.98	0.91	0.83	0.41	0.44	0.94	0.46	0.48	0.66	1.10	0.68	0.97	1.05
K2O	0.32	0.52	0.27	0.22	0.15	0.24	0.49	0.06	0.17	0.27	0.28	0.15	0.23	0.19
Total	**97.19**	**97.01**	**97.67**	**96.81**	**97.08**	**97.28**	**96.55**	**97.54**	**97.80**	**97.44**	**96.39**	**96.63**	**96.86**	**96.07**
T	1.65	1.84												
Si	7.39	7.15	7.25	7.38	7.66	7.50	7.04	7.71	7.53	7.35	6.99	7.42	7.17	7.19
Al IV	0.61	0.85	0.75	0.62	0.34	0.50	0.96	0.29	0.47	0.65	1.01	0.58	0.83	0.81
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C														
Al VI	0.18	0.21	0.27	0.22	0.15	0.22	0.30	0.27	0.16	0.25	0.31	0.19	0.29	0.25
Ti	0.03	0.08	0.10	0.10	0.06	0.06	0.14	0.00	0.07	0.09	0.07	0.05	0.08	0.09
Fe3+	0.27	0.33	0.28	0.24	0.09	0.14	0.23	0.08	0.16	0.20	0.48	0.28	0.36	0.39
Cr	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg	3.16	2.92	2.93	3.04	3.52	3.37	2.88	3.56	3.22	3.01	2.93	3.24	3.00	2.95
Fe2+	1.33	1.46	1.40	1.40	1.17	1.20	1.45	1.09	1.39	1.44	1.20	1.24	1.27	1.32
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B														
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.06	0.05	0.10	0.07	0.12	0.09	0.04	0.21	0.06	0.02	0.10	0.15	0.15	0.11
Mn	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.04	0.04	0.03	0.03	0.04	0.04	0.04
Ca	1.82	1.79	1.71	1.73	1.77	1.81	1.83	1.65	1.82	1.83	1.73	1.71	1.66	1.68
Na	0.08	0.12	0.16	0.15	0.08	0.08	0.10	0.10	0.08	0.11	0.15	0.10	0.15	0.17
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A														
Na	0.08	0.16	0.09	0.08	0.03	0.05	0.17	0.03	0.05	0.07	0.17	0.09	0.12	0.13
K	0.06	0.10	0.05	0.04	0.03	0.04	0.09	0.01	0.03	0.05	0.05	0.03	0.04	0.04
TOTAL A	**0.14**	**0.26**	**0.14**	**0.12**	**0.06**	**0.09**	**0.26**	**0.04**	**0.09**	**0.12**	**0.22**	**0.12**	**0.16**	**0.16**
Vacancies	*0.86*	*0.74*	*0.86*	*0.88*	*0.94*	*0.91*	*0.74*	*0.96*	*0.91*	*0.88*	*0.78*	*0.88*	*0.84*	*0.84*
#Mg=Mg/(F	0.657	0.614	0.622	0.639	0.718	0.702	0.627	0.720	0.666	0.644	0.621	0.660	0.627	0.619

Table C.10- EPMA results for amphibole included in BIC mesocratic rocks (cont)

PROFILE	0	0	0	0	0	3	3	-	-
SERIES	-	-	-	-	-	-	-	ODV I	ODV I
GROUP	BG	BG	BG	BG	BG	BG	BG	Low	Low
UNIT	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular (Brecciated)	Intergranular (Brecciated)
CLASIF	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Anorthosite	Qz Diorite	Qz Diorite	Tonalite	Tonalite
DESCRIP	Hbl Gr newf (C)	Hbl Gr newf (C)	Hbl Gr newf (C)	Hbl Gr newf (B)	Hbl Gr/Px newf (C)	Hbl Gr newf (C)	Hbl Gr newf (B)	Hbl Gr (C)	Hbl Gr (B)
SAMPLE	MB-17	MB-17	MB-17	MB-17	MB-17	MB-3	MB-3	ODV-G-43	ODV-G-43
Label	2012 [4-9]	2013 [4-10]	2018 [5-5]	2019 [5-6]	2020 [5-7]	1878 [5-1]	1879 [5-2]	2301[5-5]	2302 [5-6]
SiO2	48.94	49.15	51.96	49.69	54.13	46.12	46.52	52.20	51.96
TiO2	0.81	0.09	0.44	0.49	0.45	1.38	1.36	0.12	0.32
Al2O3	6.22	7.54	5.09	6.82	3.10	8.82	8.19	3.50	3.03
Cr2O3	0.00	0.00	0.09	0.07	0.09	0.01	0.00	0.07	0.06
MgO	13.64	13.78	16.21	15.16	17.45	12.79	12.51	12.84	12.66
CaO	10.62	10.99	11.32	11.60	11.67	10.68	10.88	12.16	12.33
MnO	0.25	0.25	0.17	0.25	0.29	0.26	0.26	0.10	0.12
FeO	14.67	14.60	10.83	12.00	10.38	14.20	14.48	15.69	16.93
Na2O	0.94	1.10	0.60	0.95	0.39	1.43	0.98	0.42	0.31
K2O	0.25	0.21	0.18	0.23	0.10	0.26	0.35	0.00	0.00
Total	**96.33**	**97.71**	**96.88**	**97.28**	**98.03**	**95.95**	**95.51**	**97.09**	**97.71**
T						1.76	1.80		
Si	7.19	7.10	7.45	7.15	7.65	6.82	6.92	7.65	7.61
Al IV	0.81	0.90	0.55	0.85	0.35	1.18	1.08	0.35	0.39
TOTAL T	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**	**8.00**
C									
Al VI	0.27	0.38	0.31	0.31	0.17	0.36	0.35	0.26	0.13
Ti	0.09	0.01	0.05	0.05	0.05	0.15	0.15	0.01	0.04
Fe3+	0.35	0.47	0.16	0.34	0.10	0.42	0.38	0.07	0.16
Cr	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Mg	2.99	2.97	3.46	3.25	3.68	2.82	2.77	2.81	2.77
Fe2+	1.30	1.18	1.01	1.03	1.00	1.24	1.34	1.84	1.90
Mn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL C	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**	**5.00**
B									
Mg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.15	0.12	0.13	0.07	0.13	0.09	0.08	0.01	0.02
Mn	0.03	0.03	0.02	0.03	0.03	0.03	0.03	0.01	0.01
Ca	1.67	1.70	1.74	1.79	1.77	1.69	1.73	1.91	1.93
Na	0.15	0.15	0.11	0.11	0.07	0.19	0.15	0.07	0.03
TOTAL B	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
A									
Na	0.12	0.16	0.05	0.15	0.03	0.22	0.13	0.05	0.05
K	0.05	0.04	0.03	0.04	0.02	0.05	0.07	0.00	0.00
TOTAL A	**0.16**	**0.19**	**0.09**	**0.20**	**0.05**	**0.27**	**0.19**	**0.05**	**0.05**
Vacancies	*0.84*	*0.81*	*0.91*	*0.80*	*0.95*	*0.73*	*0.81*	*0.95*	*0.95*
#Mg=Mg/(F	0.624	0.627	0.727	0.693	0.750	0.616	0.606	0.593	0.571

Table C.11A- EPMA results for accessory minerals included in BIC mesocratic rocks- Titanite

PROFILE	-	-	-	-	-	-	-	-	-	0	0
SERIES	ODV I	ODV I	ODV I	ODV I	ODV III	ODV III	ODV III	ODV III	ODV III	-	-
GROUP	Low	Low	Low	Low	Upp	Upp	Upp	Low	Low	BG	BG
UNIT	Ophitic	Ophitic	Intergranular (Brecciated)	Intergranular (Brecciated)	Pegmatoida l	Pegmatoida l	Pegmatoida l	Sub-Ophitic	Intergranular	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Amph Gb	Amph Gb	Tonalite	Tonalite	Pegmatoid (diorite)	Pegmatoid (diorite)	Pegmatoid (diorite)	Qz Diorite	Diorite	Anorthosite	Anorthosite
DESCRIP	Ttn (V)	Ttn (V)	Ttn (C)	Ttn (C)	Ttn inc Amp l (C)	Ttn inc Amp l (C)	Ttn inc Amp l (B)	Ttn (C)	Ttn (C)	Ttn (C)	Ttn (B)
SAMPLE	ODV-D1	ODV-D1	ODV-G-43	ODV-G-43	CVD-5	CVD-5	CVD-5	CVD-19	CVD-19B	MB-15	MB-15
Label	2319 [4-1]	2321[4-4]	2295 [4-1]	2296 [4-3]	756 [3-3]	760 [4-2]	761[4-3]	2119 [6-5]	2158 [3-4]	1345 [5-1]	1346 [5-2]
SiO2	31.06	30.95	30.74	31.10	30.27	30.13	30.47	31.14	30.64	31.54	31.17
TiO2	37.38	37.47	36.23	35.77	38.02	37.18	37.38	35.10	37.15	38.27	38.71
Al2O3	1.68	1.57	1.92	2.41	0.91	0.99	0.79	3.24	1.56	0.84	0.66
Cr2O3	0.01	0.03	0.03	0.04				0.03	0.04	0.08	0.03
MgO	0.02	0.04	0.00	0.05	0.04	0.00	0.00	0.02	0.05	0.01	0.00
CaO	28.58	28.59	27.98	28.58	27.40	27.18	27.00	29.40	28.55	28.14	28.15
MnO	0.00	0.00	0.00	0.00	0.06	0.00	0.01	0.01	0.06	0.02	0.00
FeO	0.70	0.81	0.64	0.94	1.15	1.43	1.25	0.74	1.11	0.39	0.36
Na2O	0.02	0.00	0.02	0.01	0.02	0.00	0.00	0.02	0.02	0.00	0.02
K2O	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00
Total	**99.45**	**99.46**	**97.58**	**98.90**	**97.86**	**96.92**	**96.91**	**99.71**	**99.19**	**99.29**	**99.11**
Atoms per unit formula											
Si	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
Ti	3.621	3.643	3.546	3.461	3.779	3.713	3.691	3.391	3.648	3.650	3.737
Al	0.255	0.239	0.295	0.365	0.141	0.155	0.122	0.490	0.239	0.126	0.100
Cr	0.001	0.003	0.003	0.004	0.000	0.000	0.000	0.003	0.005	0.008	0.003
Fe3+	0.003	0.008	0.000	0.009	0.007	0.001	0.000	0.004	0.009	0.001	0.000
SUM iv (-Si)	***3.9***	***3.9***	***3.8***	***3.8***	***3.9***	***3.9***	***3.8***	***3.9***	***3.9***	***3.8***	***3.8***
Mg	0.003	0.008	0.000	0.009	0.007	0.001	0.000	0.004	0.009	0.001	0.000
Ca	3.943	3.959	3.901	3.939	3.880	3.866	3.798	4.046	3.994	3.823	3.871
Mn	0.000	0.000	0.000	0.000	0.006	0.000	0.001	0.001	0.007	0.002	0.000
Na	0.005	0.001	0.006	0.002	0.006	0.000	0.000	0.006	0.005	0.000	0.004
K	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.003	0.002	0.000	0.001
SUM vi	***4.0***	***4.0***	***3.9***	***4.0***	***3.9***	***3.9***	***3.8***	***4.1***	***4.0***	***3.8***	***3.9***
Tot Cat	**11.90**	**11.94**	**11.82**	**11.88**	**11.95**	**11.89**	**11.75**	**12.02**	**12.03**	**11.65**	**11.75**

Table C.11B- EPMA results for accessory minerals included in BIC mesocratic rocks- clinopyroxene

PROFILE	3	3	3	3	3	0	0
SERIES	-	-	-	-	-	-	-
GROUP	BG	BG	BG	BG	BG	BG	BG
UNIT	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic	Intergranular protoclastic
CLASIF	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Qz Diorite	Anorthosite	Anorthosite
DESCRIP	Cpx newf -Di (C)	Cpx newf -Di (B)	Cpx newf -Di (C)	Cpx newf -Di (B)	Cpx newf -Di (Vein)	Cpx relic (C)	Cpx relic (B)
SAMPLE	MB-3	MB-3	MB-3	MB-3	MB-3	MB-15	MB-15
Label	1881[6-1]	1882 [6-2]	1883 [6-3]	1884 [6-4]	1885 [6-5]	1337 [2-1]	1338 [2-2]
SiO2	55.02	55.30	55.09	55.58	54.47	53.18	52.92
TiO2	0.00	0.01	0.03	0.00	0.08	0.56	0.57
Al2O3	0.30	0.27	0.06	0.27	0.73	2.06	2.58
V2O3							
Cr2O3	0.01	0.03	0.03	0.02	0.00	0.02	0.04
MgO	14.50	15.14	13.90	15.69	14.37	14.91	14.88
CaO	23.82	23.76	23.74	24.17	22.71	20.92	20.87
MnO	0.04	0.10	0.13	0.06	0.06	0.22	0.22
FeO	6.11	4.84	6.80	4.53	6.42	7.26	7.19
NiO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ZnO							
Na2O	0.19	0.11	0.15	0.10	0.47	0.32	0.41
K2O	0.00	0.01	0.00	0.00	0.01	0.01	0.00
Total	**99.98**	**99.56**	**99.94**	**100.42**	**99.31**	**99.46**	**99.66**
T							
Si	2.02	2.03	2.03	2.02	2.02	1.97	1.95
Al IV						0.03	0.05
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL T	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**
M1							
Al VI	0.04	0.04	0.04	0.03	0.05	0.06	0.07
Fe3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ti4+	0.00	0.00	0.00	0.00	0.00	0.02	0.02
Cr3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
V3+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg2+	0.80	0.83	0.77	0.85	0.79	0.82	0.82
Fe2+	0.17	0.13	0.20	0.11	0.15	0.10	0.10
Mn2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL M1	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
M2							
Mg2+	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fe2+	0.02	0.02	0.01	0.02	0.04	0.12	0.13
Mn2+	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Ca2+	0.94	0.93	0.94	0.94	0.90	0.83	0.83
Na+	0.01	0.01	0.01	0.01	0.03	0.02	0.03
TOTAL M2	**0.98**	**0.97**	**0.97**	**0.97**	**0.98**	**0.98**	**0.99**
Wo (%)	49	49	49	49	48	44	44
En (%)	**41**	**43**	**40**	**44**	**42**	**44**	**44**
Fs (%)	10	8	11	7	11	12	12
Q	2	2	2	2	2	1.88	1.87
J	0.03	0.02	0.02	0.01	0.07	0.05	0.06
Mg#	**0.81**	**0.85**	**0.78**	**0.86**	**0.80**	**0.79**	**0.79**

Table C.12A- EPMA results for sulphides- pyrite

SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Int	Upper	Upper	Upper	Upper	Upper	Upper
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type II	Type II	Type II	Type II	Type II	Type II
DESCRIP	Py veinlet in Linn	Py veinlet in Linn (thick)	Py I Groundmass ©	Py I Groundmass (B)	Py V ©	Py V (B)	Py V ©	Py V (B)	Py V ©	PyG (C)	Py-Co (C)	Py eued (C)	Py eud (B)	Py eud (C)	Py eud (B)	Py porous (C)	Py porous (B)
SAMPLE	FG-6A SP3	FG-6A SP3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG-6A SP3	FG-6A1	SB-17C	CV-26	CV-26	CV-30	CV-30	CV-30	CV-30
Label	P25 (2_1)	P26 (2_2)	P1(1_1)	P3 (1_3)	P4 (1_4)	P5 (1_5)	P17 (4_1	P18 (4_2	P24 (1_4)	P39 (4_7)	P96 (2_3)	682 (1_3)	683 (1_4)	P79 (1_3)	P80 (1_4)	P81(1_5)	P82 (1_6)
S	53.32	54.06	52.54	52.99	52.96	53.09	53.04	53.33	53.87	52.68	53.42	53.53	53.90	54.17	53.58	53.17	53.27
Fe	43.36	43.09	45.90	46.86	46.71	45.40	47.20	47.29	46.37	45.56	42.49	46.34	46.26	45.36	45.43	45.01	46.03
Co	0.12	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	2.60	0.18	0.18	0.16	0.17	0.21	0.19
Ni	4.99	4.56	0.85	0.61	0.68	1.76	0.69	0.69	2.09	0.68	0.00	0.12	0.17	0.12	0.15	0.16	0.18
Cu	0.01	0.06	0.00	0.11	0.00	0.00	0.01	0.01	0.02	0.05	0.09	0.00	0.00	0.03	0.10	0.05	0.05
Zn	0.02	0.00	0.00	0.13	0.00	0.00	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
As	0.03	0.04	0.03	0.07	0.00	0.03	0.02	0.04	0.04	0.00	0.00	0.07	0.12	0.00	0.00	0.00	0.00
Pd	0.00	0.01	0.00	0.00	0.01	0.00	0.03	0.00	0.06	0.00	0.00			0.00	0.00	0.00	0.00
Ag	0.05	0.00	0.03	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.02
Cd	0.00	0.10	0.00	0.01	0.00	0.13	0.00	0.06	0.00	0.01	0.05	0.00	0.00	0.07	0.05	0.03	0.04
Pt	0.00	0.00	0.00	0.01	0.00	0.00	0.09	0.00	0.05	0.09	0.00			0.00	0.00	0.00	0.10
Au	0.06	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00			0.00	0.09				
Bi	0.05	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**102.01**	**101.99**	**99.35**	**100.79**	**100.38**	**100.49**	**101.12**	**101.51**	**102.51**	**99.12**	**98.64**	**100.25**	**100.73**	**99.92**	**99.50**	**98.61**	**99.87**
Atms %																	
S	65.77	66.41	66.19	65.93	66.07	66.22	65.84	65.89	65.95	66.46	67.38	66.64	66.77	67.37	67.06	67.10	66.64
Fe	30.71	30.39	33.19	33.47	33.46	32.51	33.64	33.54	32.59	33.00	30.77	33.12	32.90	32.39	32.64	32.61	33.06
Co	0.08	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	1.78	0.12	0.12	0.11	0.11	0.15	0.13
Ni	3.36	3.06	0.59	0.41	0.46	1.20	0.47	0.47	1.40	0.47	0.00	0.08	0.12	0.08	0.10	0.11	0.13
Cu	0.01	0.04	0.00	0.07	0.00	0.00	0.01	0.01	0.01	0.03	0.05	0.00	0.00	0.02	0.06	0.03	0.03
Zn	0.01	0.00	0.00	0.08	0.00	0.00	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
As	0.02	0.02	0.02	0.04	0.00	0.02	0.01	0.02	0.02	0.00	0.00	0.04	0.06	0.00	0.00	0.00	0.00
Pd	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag	0.02	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Cd	0.00	0.03	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02	0.02	0.01	0.01
Pt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Bi	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Fe:S	0.47	0.46	0.50	0.51	0.51	0.49	0.51	0.51	0.49	0.50	0.46	0.50	0.49	0.48	0.49	0.49	0.50

Table C.12B- EPMA results for sulphides- chalcopyrite

SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Lower	Lower	Lower	Lower	Int	Int	Int	Int	Int	Int	Int	Int	Int	Upper	Upper	Upper	Upper	Upper	Upper
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type II	Type II	Type II	Type II	Type II	Type II
DESCRIP	Ccp bleb Po (C)	Ccp bleb Po (B)	Ccp (C)	CcpF (C) white	Ccp in Po (B)	Ccp (C)	Ccp (B)	Ccp (C)	Ccp (B)	Ccp (C)	CcpE (C)	Ccp (C)	CcpE (C)	Ccp white (C)	Ccp White (B)	Ccp yeallow border (C)	Ccp white (C)	Ccp white (C)	Ccp White (B)
SAMPLE	**FG 6B SP-3**	**FG 6B SP-3**	**FG-6A1**	**FG-6A1**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**SB-17C**	**CV-30**	**CV-30**	**CV-30**	**CV-30**	**CV-30**	**CV-30**
Label	P15 (3_3)	P16 (3_4	P50 (5_3)	P47 (3_3)	691(6_4)	P60 (1_6)	P61(1_7)	P72 (2_6)	P73 (2_7)	P100 (2_8)	P101(3_1)	P105 (4_4)	P106 (4_5)	P87 (3_1)	P88 (3_2)	P89 (3_3)	P91(4_1)	P92 (4_2)	P93 (4_3)
S	35.39	35.75	35.59	36.16	34.21	35.38	35.59	35.31	35.51	35.73	35.61	35.62	35.64	35.90	36.02	35.57	36.13	35.82	35.43
Fe	32.15	31.70	29.77	29.92	30.28	29.77	29.67	29.91	30.25	30.13	29.96	29.55	29.76	31.20	31.25	31.16	30.61	30.60	29.99
Co	0.00	0.00	0.06	0.07	0.02	0.08	0.05	0.02	0.07	0.01	0.03	0.03	0.07	0.05	0.02	0.02	0.04	0.03	0.02
Ni	0.12	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	33.33	33.83	32.95	32.68	32.86	33.37	33.16	32.88	32.79	33.09	32.99	33.29	33.01	31.98	31.92	32.14	32.67	32.53	32.85
Zn	0.03	0.01	0.04	0.00	0.00	0.01	0.03	0.00	0.06	0.01	0.07	0.02	0.02	0.00	0.04	0.03	0.03	0.01	0.05
As	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pd	0.10	0.07	0.00	0.00		0.00	0.02	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Ag	0.07	0.00	0.02	0.04	1.11	0.03	0.04	0.01	0.03	0.02	0.00	0.02	0.00	0.12	0.06	0.02	0.04	0.00	0.02
Cd	0.13	0.00	0.04	0.06	0.00	0.07	0.09	0.08	0.01	0.08	0.06	0.04	0.05	0.06	0.06	0.05	0.05	0.05	0.07
Pt	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Au	0.07	0.00			0.05														
Bi	0.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00
Total	**101.48**	**101.46**	**98.47**	**98.94**	**98.53**	**98.70**	**98.65**	**98.20**	**98.73**	**99.08**	**98.72**	**98.56**	**98.55**	**99.30**	**99.36**	**99.00**	**99.56**	**99.04**	**98.46**
Atms %																			
S	49.93	50.31	51.30	51.74	49.93	50.99	51.26	51.09	51.10	51.22	51.23	51.31	51.32	51.27	51.36	51.02	51.44	51.29	51.13
Fe	26.04	25.61	24.64	24.58	25.37	24.63	24.53	24.85	24.99	24.79	24.74	24.44	24.61	25.58	25.58	25.65	25.01	25.16	24.85
Co	0.00	0.00	0.04	0.05	0.02	0.06	0.04	0.02	0.05	0.01	0.02	0.02	0.05	0.04	0.01	0.02	0.03	0.02	0.02
Ni	0.09	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	23.72	24.01	23.96	23.59	24.19	24.27	24.09	24.01	23.80	23.93	23.94	24.19	23.98	23.04	22.97	23.25	23.47	23.50	23.92
Zn	0.02	0.01	0.03	0.00	0.00	0.00	0.02	0.00	0.04	0.01	0.05	0.02	0.01	0.00	0.03	0.02	0.02	0.01	0.04
As	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pd	0.04	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ag	0.03	0.00	0.01	0.02	0.48	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.05	0.02	0.01	0.02	0.00	0.01
Cd	0.05	0.00	0.02	0.02	0.00	0.03	0.04	0.03	0.01	0.03	0.02	0.01	0.02	0.02	0.03	0.02	0.02	0.02	0.03
Pt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Au	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bi	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Fe:S	0.52	0.51	0.48	0.47	0.51	0.48	0.48	0.49	0.49	0.48	0.48	0.48	0.48	0.50	0.50	0.50	0.49	0.49	0.49

Table C.12C- EPMA results for sulphides- pentlandite

SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Lower	Lower	Lower	Lower	Lower	Lower	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int	Int
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog
CLASIF	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III
DESCRIP	Pn E in Po ©	Pn E in Po (B)	Pn E in Po ©	Pn E in Po (B)	Pn E in Po ©	Pn E in Po (B)	Pn E in Po ©	Pn E in Po (B)	PenG (C)	PenG (B)	PenE (C)	PenG (B)	PenG (C2)	PenE (C)	PenE (outro grão) (C)	PenE (outro grão) (C)	PenE	PenE (C)	PenE (C)
SAMPLE	FG 6B SP-3	FG 6B SP-3	FG-6A SP3	FG-6A SP3	FG-6A SP3	FG-6A SP3	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C
Label	P8 (1_8)	P9 (1_9)	P21(1_1)	P22 (1_2)	P30 (3_1)	P31(3_2)	692 (6_5)	693 (6_6)	P57 (1_3)	P58 (1_4)	P59 (1_5)	P70 (2_4)	P71 (2_3A)	P74 (2_5)	P75 (2A_8)	P76 (2A_9)	P98 (2_5)	P102 (4_1)	P103 (4_2)
S	33.90	34.02	34.76	33.91	34.17	34.00	33.09	32.76	34.08	33.90	34.05	33.83	33.47	34.44	34.08	33.78	33.99	34.05	34.18
Fe	29.42	30.57	29.19	28.27	29.71	29.36	24.90	26.90	26.95	26.25	25.49	24.72	23.74	25.02	27.10	24.43	26.59	25.46	25.76
Co	3.48	3.55	5.22	6.05	5.22	6.38	17.39	13.78	11.62	13.36	16.87	15.28	17.72	16.40	14.34	15.74	15.67	14.74	16.80
Ni	34.91	34.30	33.70	34.56	32.38	31.58	24.40	26.13	27.37	25.78	23.85	24.52	24.17	23.94	23.58	24.97	23.70	25.45	23.75
Cu	0.00	0.00	0.03	0.00	0.00	0.11	0.00	0.00	0.13	0.11	0.15	0.08	0.02	0.70	0.08	0.06	0.01	0.08	0.08
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
As	0.08	0.06	0.10	0.05	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pd	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Ag	0.05	0.11	0.07	0.09	0.05	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Cd	0.15	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.05	0.06	0.06	0.04	0.05	0.02	0.05	0.04	0.04	0.04
Pt	0.00	0.13	0.03	0.06	0.00	0.08			0.00	0.44	0.01	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.03
Au	0.00	0.04	0.00	0.00	0.00	0.18	0.00	0.05											
Bi	0.07	0.00	0.00	0.10	0.00	0.01	0.01	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total	**102.05**	**102.82**	**103.15**	**103.08**	**101.60**	**101.78**	**99.79**	**99.77**	**100.21**	**99.89**	**100.49**	**98.48**	**99.17**	**100.54**	**99.33**	**99.03**	**100.02**	**99.82**	**100.64**
Atms %																			
S	47.18	47.03	47.71	46.85	47.60	47.42	47.15	46.80	48.07	48.11	47.97	48.48	47.84	48.39	48.42	48.23	48.05	48.20	48.05
Fe	23.51	24.26	23.00	22.42	23.76	23.51	20.37	22.06	21.82	21.39	20.61	20.34	19.48	20.18	22.10	20.02	21.58	20.69	20.79
Co	2.64	2.67	3.90	4.54	3.96	4.84	13.48	10.71	8.92	10.32	12.93	11.91	13.78	12.54	11.08	12.22	12.05	11.35	12.84
Ni	26.54	25.90	25.26	26.08	24.63	24.06	18.99	20.39	21.08	19.98	18.35	19.19	18.87	18.37	18.30	19.47	18.30	19.68	18.23
Cu	0.00	0.00	0.02	0.00	0.00	0.08	0.00	0.00	0.09	0.08	0.10	0.06	0.01	0.50	0.05	0.04	0.00	0.06	0.06
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
As	0.05	0.03	0.06	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Ag	0.02	0.05	0.03	0.04	0.02	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Cd	0.06	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.02	0.01	0.02
Pt	0.00	0.03	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Au	0.00	0.01	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bi	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Fe:S	0.50	0.52	0.48	0.48	0.50	0.50	0.43	0.47	0.45	0.44	0.43	0.42	0.41	0.42	0.46	0.42	0.45	0.43	0.43

Table C.12D- EPMA results for sulphides- pyrrhotite

SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	ODV III	ODV III
GROUP	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Int	Int	Int	Int	Int	Int	Int	Upper	Upper
UNIT	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	PxGb I	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	Ol Leucog	PxGb II	PxGb II
CLASIF	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type III	Type II	Type II
DESCRIP	PoG_vein Py (B)	PoG_vein Py (C)	PoG ©	Po bleb_Cpy (C)	Po bleb_Cpy (B)	PoG ©	PoG (C)	PoG (B)	PoG (C)	PoB (C)	Po ©	Po (B)	PoB (C)	PoB (B)	PoB (C)	PoB (B)	PoB (C) macla	Po matrix (C)	Po matrix (B)
SAMPLE	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG 6B SP-3	FG-6A SP3	FG-6A1	FG-6A1	FG-6A1	FG-6A1	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	SB-17C	CV-26	CV-26
Label	P6 (1_6)	P2 (1_2)	P7 (1_7)	P13 (3_1)	P14 (3_2)	P23 (1_3)	P32 (4_1)	P33 (4_2)	P36 (4_4)	P46 (3_1)	688 (6_1)	689 (6_2)	P55 (1_1)	P56 (1_2)	P67 (2_1)	P68 (2_2)	P104 (4_3)	680 (1_1)	681(1_2)
S	39.50	39.71	39.78	39.66	40.81	39.96	39.84	40.19	39.96	40.18	36.91	38.55	39.37	39.16	39.18	39.34	36.68	39.82	39.66
Fe	60.61	59.96	61.07	60.27	60.09	62.01	58.23	58.49	58.37	58.51	62.48	60.49	59.53	59.43	60.20	59.65	61.68	59.39	58.97
Co	0.00	0.00	0.00	0.00	0.00	0.03	0.14	0.13	0.10	0.10	0.08	0.08	0.06	0.09	0.07	0.10	0.08	0.20	0.23
Ni	0.78	0.86	0.56	0.71	0.30	0.97	0.63	0.60	0.61	0.57	0.04	0.15	0.18	0.05	0.23	0.18	0.00	0.13	0.18
Cu	0.00	0.13	0.02	0.01	0.09	0.09	0.09	0.07	0.09	0.09	0.00	0.01	0.01	0.00	0.07	0.07	0.00	0.00	0.00
Zn	0.08	0.05	0.00	0.15	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
As	0.14	0.08	0.02	0.03	0.10	0.09	0.00	0.00	0.00	0.00	0.11	0.10	0.00	0.00	0.00	0.00	0.00	0.03	0.23
Pd	0.00	0.05	0.02	0.03	0.02	0.07	0.05	0.00	0.01	0.00			0.02	0.00	0.01	0.00	0.00		
Ag	0.09	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.13
Cd	0.11	0.02	0.08	0.00	0.04	0.10	0.04	0.02	0.02	0.06	0.00	0.00	0.02	0.04	0.02	0.06	0.07	0.00	0.00
Pt	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01			0.14	0.00	0.00	0.00	0.00		
Au	0.08	0.00	0.00	0.00	0.00	0.00					0.04	0.00						0.04	0.03
Bi	0.00	0.00	0.13	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00		0.09	0.01
Total	**101.44**	**100.88**	**101.68**	**100.90**	**101.49**	**103.33**	**99.02**	**99.52**	**99.18**	**99.53**	**99.67**	**99.45**	**99.32**	**98.78**	**99.77**	**99.39**	**98.52**	**99.71**	**99.42**
Atms %																			
S	52.73	53.12	52.89	53.05	53.99	52.42	54.02	54.16	54.06	54.15	50.63	52.48	53.40	53.38	52.99	53.32	50.84	53.71	53.68
Fe	46.46	46.05	46.61	46.28	45.63	46.69	45.32	45.24	45.33	45.27	49.20	47.27	46.36	46.50	46.74	46.41	49.07	46.00	45.83
Co	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.10	0.08	0.07	0.06	0.06	0.04	0.07	0.05	0.08	0.06	0.15	0.17
Ni	0.57	0.63	0.41	0.52	0.22	0.69	0.46	0.44	0.45	0.42	0.03	0.11	0.13	0.04	0.17	0.13	0.00	0.10	0.13
Cu	0.00	0.09	0.01	0.01	0.06	0.06	0.06	0.05	0.06	0.06	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00
Zn	0.05	0.03	0.00	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
As	0.08	0.05	0.01	0.02	0.06	0.05	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.02	0.13
Pd	0.00	0.02	0.01	0.01	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Ag	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Cd	0.04	0.01	0.03	0.00	0.01	0.04	0.01	0.01	0.01	0.02	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.00	0.00
Pt	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Au	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Bi	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00
TOTAL	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Fe:S	0.88	0.87	0.88	0.87	0.85	0.89	0.84	0.84	0.84	0.84	0.97	0.90	0.87	0.87	0.88	0.87	0.97	0.86	0.85

Table C.12D- EPMA results for sulphides- pyrrhotite (cont)

SERIES	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III	ODV III
GROUP	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper	Upper
UNIT	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II	Px Gb II
CLASIF	Type II	Type II	Type II	Type II	Type II	Type II	Type II	Type II-met halo	Type II-met halo
DESCRIP	Po matrix (C)	Po matrix (B)	PoG (C)	PoG (C)	PoG (C)	PoG (C)	PoG (C) near Cpy	Po ©	Po (B)
SAMPLE	CV-26	CV-26	CV-26	CVD-9B	CV-30	CV-30	CV-30	PED-ODV-2	PED-ODV-2
Label	684 (2_1)	685 (2_2)	P51(1_1)	P54 (7_1)	P77 (2_1)	P83 (1_1)	P90 (3_4)	699 (1_1)	700 (1_2)
S	38.70	39.27	40.26	39.03	40.07	40.39	40.30	37.62	37.28
Fe	59.77	58.66	58.43	59.33	58.07	57.76	59.17	62.36	62.55
Co	0.19	0.20	0.25	0.12	0.26	0.23	0.25	0.09	0.07
Ni	0.13	0.20	0.23	0.20	0.16	0.17	0.07	0.03	0.00
Cu	0.00	0.00	0.08	0.05	0.03	0.02	0.08	0.00	0.01
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
As	0.14	0.20	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Pd			0.00	0.01	0.01	0.00	0.00		
Ag	0.04	0.00	0.03	0.00	0.00	0.00	0.00	0.02	0.02
Cd	0.00	0.00	0.07	0.05	0.08	0.04	0.04	0.00	0.00
Pt			0.11	0.00	0.00	0.30	0.00		
Au	0.00	0.00						0.01	0.13
Bi	0.07	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total	99.03	98.74	99.45	98.79	98.69	98.91	99.92	100.20	100.10
Atms %									
S	52.82	53.59	54.30	53.24	54.38	54.70	54.10	51.17	50.89
Fe	46.83	45.96	45.24	46.46	45.25	44.91	45.60	48.69	49.01
Co	0.14	0.15	0.18	0.09	0.19	0.17	0.18	0.07	0.05
Ni	0.09	0.15	0.17	0.15	0.12	0.12	0.05	0.03	0.00
Cu	0.00	0.00	0.05	0.03	0.02	0.02	0.05	0.00	0.01
Zn	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
As	0.08	0.12	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Pd	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Ag	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01
Cd	0.00	0.00	0.03	0.02	0.03	0.02	0.01	0.00	0.00
Pt	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.00	0.00
Au	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Bi	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Fe:S	0.89	0.86	0.83	0.87	0.83	0.82	0.84	0.95	0.96

Table C.12E- EPMA results for sulphides- Linnaeite Group Minerals

SERIES	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II	BRG II
GROUP	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Lower	Int
UNIT	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Px Gb I	Ol Leucog
CLASIF	Ore	Ore	Ore	Ore	Ore	Ore	Ore	Ore	Ore	Ore	Ore	Ore
DESCRIP	Linn V Core ©	Linn V Core (CB)	Linn V Core (C)	Linn V Core (CB)	Linn V Border (B)	Linn V Border (B)	Linn patch ©	Linn patch (B)	LinnP B (C)	LinnP C (C)	LinnP C (B)	LinnP (C)
SAMPLE	FG 6B SP-3	FG 6B SP-3	FG-6A SP3	FG-6A SP3	FG 6B SP-3	FG-6A SP3	FG 6B SP-3	FG 6B SP-3	FG-6A1	FG-6A1	FG-6A1	SB-17C
Label	P10 (2_1)	P12 (2_3)	P27 (2_3)	P28 (2_4)	P11 (2_2)	P29 (2_5)	P19 (4_3	P20 (4_4	P42 (4_11)	P43 (4_9)	P44 (4_10)	P99 (2_6)
S	38.95	40.43	38.49	42.97	42.47	42.07	43.28	42.36	41.54	41.13	40.57	39.08
Fe	22.45	22.65	24.26	22.52	26.52	28.48	24.53	24.87	26.95	19.51	19.73	11.92
Co	7.39	7.36	6.09	6.15	0.65	0.26	3.62	3.90	0.70	7.87	7.76	19.98
Ni	27.78	28.40	26.53	29.05	30.76	29.56	28.74	28.74	28.36	27.47	27.46	23.00
Cu	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.19	0.10	0.04
Zn	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00
As	0.00	0.13	0.00	0.00	0.08	0.04	0.01	0.07	0.00	0.00	0.00	0.00
Pd	0.00	0.00	0.07	0.00	0.00	0.06	0.00	0.08	0.02	0.00	0.02	0.00
Ag	0.00	0.02	0.00	0.00	0.00	0.04	0.11	0.03	0.01	0.00	0.00	0.00
Cd	0.00	0.07	0.00	0.03	0.01	0.00	0.00	0.04	0.02	0.04	0.04	0.08
Pt	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.03	0.04	0.00	0.00	0.21
Au	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00				
Bi	0.01	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**96.76**	**99.16**	**95.59**	**100.76**	**100.51**	**100.51**	**100.27**	**100.27**	**97.75**	**96.20**	**95.68**	**94.30**
Atms %												
S	54.82	55.35	54.77	57.19	56.71	56.28	57.66	56.78	56.94	57.35	57.00	56.31
Fe	18.14	17.80	19.82	17.21	20.33	21.87	18.76	19.14	21.20	15.62	15.91	9.86
Co	5.66	5.48	4.71	4.45	0.47	0.19	2.62	2.84	0.52	5.97	5.93	15.66
Ni	21.36	21.23	20.62	21.12	22.43	21.60	20.91	21.04	21.23	20.92	21.07	18.10
Cu	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.13	0.07	0.03
Zn	0.00	0.00	0.03	0.03	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00
As	0.00	0.08	0.00	0.00	0.04	0.02	0.00	0.04	0.00	0.00	0.00	0.00
Pd	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.03	0.01	0.00	0.01	0.00
Ag	0.00	0.01	0.00	0.00	0.00	0.02	0.04	0.01	0.00	0.00	0.00	0.00
Cd	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.03
Pt	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Au	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bi	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Fe:S	0.33	0.32	0.36	0.30	0.36	0.39	0.33	0.34	0.37	0.27	0.28	0.18

D. APPENDIX D- WHOLE ROCK ANALYSIS

Table D.1- Whole rock analysis for LGS gabbroic rocks performed by ACTLABS (for details see methodologies section, this volume). Shaded rows: *(i)* distal amphibolitic gabbro (#ODV-G-21-24); *(ii)* hydrothermally altered rocks included in the metasomatic halo (# CV-28; 31) of Ventoso type III mineralisation; *(iii)* BRG I amphibolitic gabbro (#PEROG-5) and; *(iv)* anorthosite mingled with gabbro from BRG I (#CNT-15).

				SiO_2	Al_2O_3	$Fe_2O_3(T)$	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	LOI	Total	S
			(wt %)	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	TD-ICP
SB I		Troct and Wehrl	RS-6	42.66	23.92	3.63	0.05	11.42	12.16	1.04	0.06	0.04	0.02	4.24	99.24	0.010
			RS-7	42.71	24.05	3.47	0.05	11.47	12.29	1.18	0.03	0.04	0.02	5.17	100.50	0.007
			RS-15	46.40	24.53	3.25	0.05	7.95	14.63	1.44	0.10	0.13	0.02	2.18	100.70	0.027
		Ol Leucgb	RS-17	47.40	23.70	5.21	0.08	7.15	11.91	2.53	0.10	0.11	0.01	1.11	99.30	0.031
			RS-3	47.82	19.13	7.48	0.12	11.02	10.90	1.83	0.13	0.26	0.05	1.31	100.10	0.059
SB II		Gbnor	RS-11	49.82	17.38	9.56	0.16	6.99	12.06	2.63	0.17	1.39	0.15	0.28	100.60	0.098
ODV I		Cumulate	ODV-4-A1	*(see below)*												
			ODV-G-36	39.40	13.71	23.50	0.28	10.11	5.97	2.81	0.14	3.97	0.25	<0.86	99.28	
	LOW	Ol Leucog I	ODV-G-34	47.60	17.03	12.31	0.17	4.96	11.46	3.51	0.16	2.12	0.03	0.09	99.44	
			ODV-G-26	49.51	20.28	6.91	0.11	7.18	11.52	3.21	0.18	0.32	0.06	1.09	100.36	
			ODV-G-25	50.16	19.90	5.59	0.11	7.19	12.11	3.11	0.25	0.59	0.03	0.47	99.52	
			ODV-G-23	45.99	15.43	15.25	0.22	5.68	11.63	2.95	0.14	2.78	0.03	0.31	100.41	
			ODV-G-22	46.65	19.82	11.24	0.15	4.07	9.40	3.84	0.13	1.37	0.04	3.43	100.11	
			ODV-G-21	46.43	17.85	10.18	0.19	5.70	9.54	3.54	0.26	3.48	0.03	1.72	98.92	
	INT	Leucog	ODV-G-24	49.72	16.01	8.49	0.17	7.16	12.47	3.20	0.41	0.99	0.02	1.37	100.01	
			ODV-G-38	46.74	17.01	11.51	0.13	6.81	13.06	2.65	0.15	1.63	0.05	0.31	100.06	
			ODV-G-37	50.95	21.91	5.52	0.09	5.92	11.87	3.51	0.12	0.22	0.04	0.32	100.47	
		Anort	ODV-A-20	54.44	27.68	0.69	0.01	0.13	9.97	5.93	0.30	0.10	0.04	1.10	100.40	
			ODV-A-27	53.82	27.72	1.09	0.02	0.56	10.98	5.26	0.26	0.11	0.04	0.66	100.50	
			ODV-A-39	52.51	29.04	0.87	0.01	0.18	11.69	4.79	0.11	0.12	0.03	1.07	100.42	
	UPP	Ol Leucog II	ODV-G-35	47.09	18.55	13.85	0.15	5.30	9.27	3.69	0.21	2.30	0.03	<0.32	100.11	
ODV II		Ol Leucog I	ODV-G-41	42.55	15.50	16.32	0.14	6.92	12.88	2.18	0.06	2.66	0.02	<0.06	99.15	
		Ol Gb I	ODV-G-28	48.30	18.64	7.60	0.12	10.07	12.27	2.65	0.04	0.42	0.02	0.16	100.30	
			ODV-G-32	49.45	20.23	4.78	0.11	9.12	12.15	2.77	0.14	0.29	0.01	0.39	99.44	
			ODV-G-33	48.47	19.24	6.75	0.11	9.19	11.92	2.56	0.14	0.31	0.03	1.67	100.39	
		Anort	ODV-G-31	52.02	28.91	0.85	0.02	0.35	12.04	4.49	0.27	0.24	0.06	0.98	100.22	
		Ol Leucog II	ODV-G-29	48.52	18.39	5.48	0.13	11.45	11.58	2.60	0.11	0.36	0.02	0.15	98.77	
			ODV-G-40	49.31	20.29	5.99	0.10	8.24	12.57	2.84	0.10	0.34	0.03	0.38	100.18	
		Ol Gb II	ODV-D3	49.20	18.26	7.15	0.12	10.14	12.25	2.44	0.09	0.26	0.02	0.35	100.30	0.062
		Ol Leucog III	ODV-D4	51.37	20.45	4.96	0.09	6.92	13.14	3.00	0.06	0.30	0.02	0.34	100.60	0.003
ODV III	LOW	Ol Leucog I	CVD-19A	50.01	19.22	6.38	0.10	8.11	13.15	2.63	0.07	0.34	0.02	0.48	100.50	0.050
		Px Gb I	CDV-17	50.42	20.68	6.48	0.10	7.93	11.16	3.20	0.17	0.36	0.03	0.26	100.80	0.016
		Ol Leucog II	CVD-16A	49.58	16.67	6.12	0.11	9.58	15.36	1.87	0.07	0.45	0.02	0.62	100.50	0.082
	UPP	Px Gb II	CV-31	48.93	15.80	6.57	0.13	9.75	14.49	2.16	0.19	0.44	0.02	1.84	100.31	
			CV-28	45.59	17.14	10.19	0.12	9.00	11.67	2.31	0.16	0.29	0.02	3.06	99.55	
			CVD-6A	50.49	20.27	4.41	0.08	6.56	14.13	2.83	0.13	0.32	0.02	0.97	100.20	0.046
		Ol Leucog III	CVD-2D	46.31	13.42	10.63	0.16	16.31	10.40	1.68	< 0.01	0.24	0.02	1.07	100.30	0.109
			CVD-20	49.40	23.59	6.58	0.08	6.21	10.16	3.49	0.15	0.22	0.02	0.41	100.30	0.007
BRG I	LOW	Px Gb	PEROG 5	47.81	17.21	7.67	0.12	10.72	13.17	1.77	0.17	0.55	0.04	1.35	100.60	0.078
			CNT-23A	47.63	20.84	7.90	0.11	9.97	10.68	2.57	0.10	0.16	0.02	0.23	100.20	0.019
			CNT-25	47.63	17.04	5.57	0.10	10.77	15.56	1.40	0.07	0.33	0.02	1.80	100.30	0.042
		Microgb	CNT-24	49.90	17.17	7.83	0.13	8.84	13.80	2.41	0.06	0.61	0.02	0.19	101.00	0.094
		Ol Leucog II	CNT-26	49.24	23.05	5.69	0.07	6.61	10.51	3.31	0.12	0.13	0.02	0.46	99.23	0.003
			CNT-19	48.29	18.34	5.72	0.10	9.66	15.43	1.57	0.08	0.30	0.02	0.79	100.30	0.074
			SB-W3	48.49	19.21	8.65	0.12	10.54	10.71	2.63	0.07	0.19	0.02	0.13	100.80	0.258
			CNT-15A	48.48	23.98	3.24	0.06	5.49	16.05	1.89	0.10	0.20	0.02	0.89	100.40	0.029
			CNT-15	49.37	28.18	2.58	0.01	0.38	13.00	3.04	1.56	0.08	0.02	2.58	100.80	0.749
	INT	Px Porph Gb	CNT-20	47.12	19.11	8.03	0.12	10.85	12.49	1.90	0.07	0.20	0.01	0.34	100.20	0.054
			CNT-18	47.53	18.59	6.89	0.11	10.44	13.90	1.62	0.03	0.31	0.02	0.80	100.20	0.028
			SB-6	46.43	19.02	6.98	0.10	10.67	13.49	1.46	0.04	0.22	0.02	2.34	100.80	0.006
		Ol Leucog III	CNT-27	50.35	20.96	6.08	0.10	8.02	12.13	2.82	0.14	0.19	0.02	0.18	101.00	0.070
			SB-13	48.26	17.97	5.92	0.10	10.71	15.08	1.42	0.10	0.30	0.02	1.08	101.00	0.046
	UPP	Oxd rich Ol Leucog	CNT-22	47.79	20.88	9.34	0.09	6.24	10.91	3.18	0.16	0.93	0.01	0.25	99.79	0.126
			CNT-28	50.38	19.18	5.31	0.10	7.77	13.70	2.51	0.11	0.27	0.02	0.55	99.90	0.012
			SB-11	43.16	16.01	15.60	0.12	6.88	13.37	2.03	0.04	1.89	0.02	0.16	99.28	0.239
		Oxd rich Px Gb	CNT-21	50.23	11.20	6.97	0.15	12.81	17.08	1.19	0.04	0.46	0.02	0.21	100.30	0.017
			SB-S3	50.19	20.98	6.28	0.09	7.38	11.55	2.99	0.16	0.29	0.05	0.44	100.40	0.047

	Al	Fe	Mn	Mg	Ca	Na	K	Ti	P	S
(wt%)	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	INAA	TD-ICP	TD-ICP	TD-ICP	TD-ICP
ODV-4-A1	0.77	16.60	0.29	10.95	6.32	0.14	0.02	0.76	0.0038	0.005

Table D.1- (Continued)

			(ppm)	Be (1)	Sc (1)	V (1)	Co (1)	Cr (1)	Ni (1)	Cu (1)	Zn (1)	Ga (1)	Ge (1)	As (1)	Rb (1)	Sr (1)	Y (1)	Zr (1)	Nb (1)	Mo (1)	Ag (1a)	In (1)	Sn (1)	Sb (1)	Cs (1)	Ba (1)
SB I		Troct and Wehrl	RS-6	< 1	2	< 5	49	1640	250	30	40	13	0.5	< 5	2	260	0.7	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.3	0.4	27
			RS-7	< 1	3	6	56	430	410	< 10	40	13	0.6	< 5	< 1	318	0.9	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.3	0.4	26
			RS-15	< 1	17	39	40	910	150	110	30	16	0.9	< 5	2	334	3.3	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.0	0.6	41
		Ol Leucgb	RS-17	< 1	9	26	53	140	130	70	50	16	0.9	< 5	< 1	254	2.2	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.8	< 0.1	44
			RS-3	< 1	18	64	64	270	260	110	60	15	1	< 5	< 1	223	6.8	9	< 0.2	< 2	< 0.3	< 0.1	< 1	0.7	0.2	76
SB II		Gbnor	RS-11	1	39	243	65	350	90	80	110	19	1.6	< 5	1	208	30.4	50	1.6	< 2	< 0.3	< 0.1	< 1	1.2	< 0.1	102
ODV I		Cumulate	ODV-4-A1*	<1	*79*	438	*110*	*63*	58	85	114		0.7	*<0.5*	*<15*	16	11			<1	<0.3	<0.2	<0.1	*<0.1*	*<1*	*<50*
			ODV-G-36	<1	20	634	77	<20	<20	32	103	14	<0.5	<5	<1	337	3.3	13	<0.2	5	<0.5	<0.1	<1	<0.2	0.2	83
	LOW	Ol Leucog I	ODV-G-34	<1	58	672	34	<20	<20	46	58	16	<0.5	<5	1	435	9.0	16	<0.2	<2	<0.5	<0.1	<1	<0.2	0.1	106
			ODV-G-26	<1	26	85	41	43	32	41	40	13	<0.5	<5	1	370	5.8	12	<0.2	<2	<0.5	<0.1	<1	<0.2	0.2	96
			ODV-G-25	<1	33	155	22	<20	<20	19	<30	11	<0.5	<5	2	398	6.5	12	<0.2	<2	0.7	<0.1	0	0.4	0.2	86
			ODV-G-23	<1	59	554	55	65	50	79	92	14	<0.5	<5	1	322	9.1	17	<0.2	<2	<0.5	<0.1	<1	<0.2	0.2	89
			ODV-G-22	<1	21	274	33	<20	<20	67	51	15	<0.5	<5	1	415	3.1	9	<0.2	<2	<0.5	<0.1	<1	<0.2	0.4	223
			ODV-G-21	<1	35	466	29	<20	<20	64	<30	12	<0.5	<5	4	403	6.2	20	0.7	<2	<0.5	<0.1	<1	0.6	0.5	130
	INT	Leucog	ODV-G-24	<1	52	291	33	57	29	32	42	12	<0.5	<5	5	367	13.7	23	0.2	<2	0.8	<0.1	<1	<0.2	0.5	157
			ODV-G-38	<1	51	532	50	237	28	92	56	15	<0.5	<5	2	352	8.5	16	<0.2	<2	<0.5	<0.1	<1	<0.2	0.2	73
			ODV-G-37	<1	24	58	37	32	24	54	34	15	<0.5	<5	<1	416	4.9	8	<0.2	<2	<0.5	<0.1	1	0.4	0.1	105
		Anort	ODV-A-20	<1	2	10	10	<20	<20	<10	<30	19	<0.5	<5	3	644	1.1	7	<0.2	<2	<0.5	<0.1	<1	0.2	0.3	178
			ODV-A-27	<1	5	15	11	<20	<20	151	<30	17	<0.5	<5	2	582	1.8	7	<0.2	<2	<0.5	<0.1	<1	<0.2	<0.1	159
			ODV-A-39	<1	<1	9	14	<20	<20	55	<30	16	<0.5	<5	2	660	1.2	4	<0.2	<2	<0.5	<0.1	<1	0.6	0.1	127
	UPP	Ol Leucog II	ODV-G-35	<1	28	506	25	<20	<20	16	65	12	<0.5	<5	1	434	4.5	10	<0.2	<0.2	<0.5	<0.1	<1	<0.2	0.2	126
ODV II		Ol Leucog I	ODV-G-41	<1	54	1120	73	55	127	1560	100	17	1	<5	<1	314	9.3	19	<0.2	<2	<0.5	<0.1	<1	<0.2	<0.1	48
		Ol Gb I	ODV-G-28	<1	35	110	47	283	114	74	44	11	<0.5	<5	<1	323	6.2	13	<0.2	<2	<0.5	<0.1	<1	<0.2	0.2	39
			ODV-G-32	<1	26	74	27	109	33	29	<30	10	<0.5	<5	2	392	5.7	13	<0.2	<2	<0.5	<0.1	3	0.6	0.2	60
			ODV-G-33	<1	30	88	42	107	50	32	44	13	<0.5	<5	<1	373	6.4	14	<0.2	<2	<0.5	<0.1	<1	<0.2	0.2	55
		Anort	ODV-G-31	<1	2	13	11	<20	<20	<10	<30	18	<0.5	<5	4	625	2.8	30	<0.2	<2	<0.5	<0.1	<1	<0.2	0.3	124
		Ol Leucog II	ODV-G-29	<1	29	71	26	323	163	35	50	6	<0.5	<5	1	305	4.7	9	<0.2	<2	1.2	<0.1	<1	0.3	0.4	41
			ODV-G-40	<1	30	92	37	110	37	31	53	13	<0.5	<5	<1	413	6.6	17	<0.2	<2	<0.5	<0.1	<1	<0.2	0.1	62
		Ol Gb II	ODV-D3	< 1	31	95	60	390	160	60	50	15	1.4	< 5	< 1	244	6.5	< 4	< 0.2	< 2	0.4	< 0.1	< 1	1.1	0.2	58
		Ol Leucog III	ODV-D4	< 1	34	102	44	70	30	< 10	50	18	1.2	< 5	< 1	417	8.3	8	< 0.2	< 2	< 0.3	< 0.1	< 1	0.5	< 0.1	64
ODV III	LOW	Ol Leucog I	CVD-19A	< 1	36	116	50	270	130	110	60	17	1.4	< 5	< 1	334	7.8	6	< 0.2	< 2	< 0.3	< 0.1	< 1	0.8	< 0.1	63
		Px Gb I	CDV-17	< 1	20	71	53	30	40	< 10	50	18	1.1	< 5	2	405	5.4	5	< 0.2	< 2	< 0.3	< 0.1	< 1	0.2	< 0.1	83
		Ol Leucog II	CVD-16A	< 1	52	170	46	470	140	210	50	14	1.4	< 5	< 1	279	10.8	10	< 0.2	< 2	< 0.3	< 0.1	< 1	1.1	< 0.1	48
	UPP	Px Gb II	CV-31	<1	59.00	166	32	511	22	84	45	11	<0.5	<5	3	259	9.8	19	<0.2	<2	0.7	<0.1	<1	0.5	0.6	50
			CV-28	<1	35	112	75	211	44	310	79	11	<0.5	<5	4	279	5.9	12	<0.2	<2	<0.5	<0.1	<1	0.2	0.7	54
			CVD-6A	< 1	38	119	26	270	60	30	< 30	14	1	< 5	< 1	339	6.8	8	< 0.2	< 2	< 0.3	< 0.1	< 1	< 0.2	< 0.1	56
		Ol Leucog III	CVD-2D	< 1	35	98	77	320	130	60	60	10	1.1	< 5	< 1	222	6.1	6	< 0.2	< 2	< 0.3	< 0.1	< 1	0.9	0.5	37
			CVD-20	< 1	3	88	47	80	40	30	40	18	0.9	< 5	< 1	449	0.7	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.2	0.3	69
BRG I	LOW	Px Gb	PEROG 5	< 1	35	131	54	540	130	390	100	14	1.2	< 5	2	290	14.5	24	0.6	< 2	< 0.3	0.2	60	0.4	0.2	82
			CNT-23A	< 1	12	45	55	120	150	30	60	15	0.9	< 5	< 1	330	1.8	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.8	< 0.1	57
			CNT-25	< 1	48	124	39	940	170	50	30	13	1.3	< 5	< 1	256	8.1	10	< 0.2	< 2	< 0.3	< 0.1	< 1	1.1	0.3	38
		Microgb	CNT-24	< 1	47	228	48	320	40	90	50	15	1.4	< 5	< 1	386	10.5	6	< 0.2	< 2	< 0.3	< 0.1	2	1.4	< 0.1	72
		Ol Leucog II	CNT-26	< 1	6	39	42	170	20	20	40	19	1	< 5	< 1	425	1	< 4	< 0.2	< 2	0.3	< 0.1	< 1	0.5	< 0.1	70
			CNT-19	< 1	45	123	43	120	130	210	40	14	1.4	< 5	< 1	278	7.8	5	< 0.2	< 2	< 0.3	< 0.1	< 1	1.3	< 0.1	36
			SB-W3	< 1	18	53	65	200	340	370	50	15	1	< 5	< 1	230	3.7	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.5	< 0.1	44
			CNT-15A	< 1	28	75	28	340	60	90	30	17	1.1	< 5	< 1	345	5	4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.1	< 0.1	58
			CNT-15	< 1	2	6	59	< 20	180	370	< 30	22	0.6	< 5	52	463	0.9	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	1.0	0.8	113
	INT	Px Porph Gb	CNT-20	< 1	27	78	51	320	170	100	50	13	1	< 5	< 1	256	4	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.8	< 0.1	37
			CNT-18	< 1	35	101	44	460	140	70	40	13	1	< 5	< 1	292	7.1	5	< 0.2	< 2	< 0.3	< 0.1	< 1	0.6	< 0.1	40
			SB-6	< 1	28	73	45	360	180	40	50	13	1.7	< 5	< 1	295	4.7	5	< 0.2	< 2	< 0.3	< 0.1	< 1	1.0	0.5	155
		Ol Leucog III	CNT-27	< 1	24	69	48	50	80	190	40	17	1	< 5	< 1	405	4.9	< 4	< 0.2	< 2	0.3	< 0.1	< 1	0.4	< 0.1	66
			SB-13	< 1	45	120	46	370	120	70	40	13	1.2	< 5	1	264	7.9	7	< 0.2	< 2	< 0.3	< 0.1	< 1	0.5	0.3	36
	UPP	Oxd rich Ol Leucog	CNT-22	1	21	428	44	50	20	80	50	19	1	< 5	1	414	3.2	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.6	0.2	73
			CNT-28	< 1	39	118	42	100	50	40	40	16	1.3	< 5	1	362	7.7	< 4	< 0.2	< 2	< 0.3	< 0.1	< 1	0.5	< 0.1	73
			SB-11	2	*51*	1206	71	*< 5*	60	270	70	17	1.3	*< 0.5*	< 1	251	7.7	11	< 0.2	< 2	5.0	< 0.1	< 1	0.7	< 0.1	35
		Oxd rich Px Gb	CNT-21	< 1	80	227	47	170	70	30	40	10	2	< 5	< 1	185	14.1	10	< 0.2	< 2	< 0.3	< 0.1	< 1	0.5	< 0.1	23
			SB-S3	< 1	23	81	42	50	70	90	40	16	1	< 5	1	393	4.2	6	< 0.2	< 2	< 0.3	< 0.1	< 1	0.4	< 0.1	72

(1)- FUS-ICP; values in Italic-INAA (1a)- <0.3 FUS-ICP; <0.5 TD-ICP (2)- TD-ICP and all values not in italic for sample ODV-G-4A1 (*)

Table D.1- (Continued)

				La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Cd
				(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)
SB I		Troct and Wehrl	RS-6	0.67	1.05	0.14	0.48	0.11	0.21	0.09	0.01	0.09	0.02	0.05	0.006	0.040	0.007	< 0.1	< 0.01	45	0.08	< 5	0.2	0.06	0.03	< 0.5
			RS-7	0.56	0.96	0.14	0.54	0.14	0.19	0.14	0.02	0.13	0.03	0.07	0.011	0.070	0.009	< 0.1	< 0.01	92	< 0.05	< 5	0.2	0.08	0.07	< 0.5
			RS-15	0.89	1.73	0.27	1.35	0.40	0.36	0.50	0.09	0.55	0.11	0.31	0.043	0.250	0.035	0.2	< 0.01	85	< 0.05	< 5	0.4	0.12	0.05	< 0.5
		Ol Leucgb	RS-17	0.99	1.90	0.29	1.23	0.32	0.47	0.37	0.06	0.34	0.07	0.19	0.029	0.180	0.026	< 0.1	< 0.01	140	< 0.05	< 5	0.2	< 0.05	0.03	< 0.5
			RS-3	2.11	4.53	0.63	2.87	0.83	0.58	1.01	0.18	1.08	0.22	0.66	0.100	0.640	0.096	0.3	< 0.01	87	< 0.05	< 5	0.7	0.13	0.05	< 0.5
SB II		Gbnor	RS-11	5.06	13.10	2.06	10.70	3.38	1.37	4.51	0.81	4.90	0.99	2.93	0.435	2.690	0.385	1.8	0.05	154	< 0.05	< 5	0.1	0.34	0.13	< 0.5
ODV I		Cumulate	ODV-4-A1*	*0.80*	*<3*		*<5*	*1.30*	*0.50*		*<0.5*					*1.300*	*0.190*	*<1*	*<0.5*	*53*	<0.1	5	0.7	*<0.2*	*<0.5*	0.8
			ODV-G-36	1.57	3.35	0.45	2.52	0.67	0.65	0.67	0.11	0.59	0.11	0.29	0.038	0.239	0.035	0.3	0.14	72	<0.05	<5	0.2	<0.05	0.02	
	LOW	Ol Leucog I	ODV-G-34	1.43	3.58	0.56	3.63	1.24	1.00	1.48	0.28	1.69	0.32	0.89	0.119	0.710	0.100	0.4	0.03	75	0.05	<5	0.2	0.09	0.04	
			ODV-G-26	1.90	4.34	0.58	3.34	0.92	0.66	1.06	0.18	1.08	0.21	0.59	0.077	0.476	0.065	0.3	0.02	94	<0.05	<5	0.1	0.11	0.04	
			ODV-G-25	1.59	3.75	0.52	3.08	0.96	0.63	1.10	0.21	1.19	0.24	0.64	0.086	0.541	0.078	0.3	0.02	54	<0.05	<5	0.2	0.10	0.04	
			ODV-G-23	1.37	3.54	0.56	3.73	1.33	1.05	1.55	0.29	1.80	0.34	0.90	0.115	0.741	0.104	0.4	0.03	146	<0.05	<5	0.3	<0.05	0.02	
			ODV-G-22	1.37	2.73	0.35	1.88	0.51	1.03	0.53	0.09	0.57	0.11	0.29	0.037	0.253	0.038	0.2	0.03	87	<0.05	<5	0.3	<0.05	0.01	
			ODV-G-21	1.45	3.13	0.46	2.79	0.86	0.85	1.06	0.19	1.16	0.22	0.63	0.080	0.491	0.073	0.4	0.20	51	<0.05	<5	0.1	0.05	0.02	
	INT	Leucog	ODV-G-24	2.44	6.41	0.96	6.06	1.93	0.92	2.28	0.41	2.55	0.49	1.39	0.186	1.193	0.164	0.6	0.09	65	<0.05	<5	0.2	0.15	0.04	
			ODV-G-38	1.30	3.43	0.55	3.58	1.16	0.63	1.43	0.27	1.57	0.31	0.84	0.111	0.684	0.097	0.4	0.01	68	<0.05	<5	0.2	<0.05	0.02	
			ODV-G-37	1.51	3.34	0.46	2.65	0.76	0.65	0.88	0.15	0.89	0.18	0.47	0.063	0.376	0.052	0.2	<0.01	96	<0.05	<5	0.2	0.05	0.03	
		Anort	ODV-A-20	1.91	3.40	0.35	1.64	0.30	1.02	0.27	0.03	0.17	0.03	0.08	<0.005	0.060	0.008	<0.1	<0.01	154	<0.05	<5	0.2	0.07	0.02	
			ODV-A-27	1.96	3.67	0.42	1.96	0.40	0.87	0.38	0.06	0.29	0.06	0.14	0.017	0.096	0.012	0.1	<0.01	138	<0.05	<5	0.2	0.07	0.02	
			ODV-A-39	1.58	2.87	0.30	1.44	0.28	0.54	0.22	0.03	0.16	0.03	0.07	0.010	0.059	0.009	<0.1	<0.01	146	0.06	<5	0.3	0.07	0.03	
	UPP	Ol Leucog II	ODV-G-35	1.25	2.76	0.39	2.34	0.67	0.84	0.80	0.14	0.82	0.16	0.43	0.057	0.358	0.054	0.3	0.04	54	<0.05	<5	0.2	0.05	0.02	
ODV II		Ol Leucog I	ODV-G-41	1.23	3.08	0.52	3.38	1.21	0.56	1.47	0.28	1.74	0.33	0.91	0.126	0.754	0.105	0.5	0.01	83	<0.05	<5	0.3	<0.05	0.02	
		Ol Gb I	ODV-G-28	0.99	2.65	0.40	2.51	0.84	0.58	1.04	0.20	1.22	0.24	0.65	0.087	0.566	0.083	0.3	<0.01	116	<0.05	<5	0.3	<0.05	<0.01	
			ODV-G-32	1.25	2.96	0.43	2.53	0.78	0.50	0.94	0.18	1.03	0.20	0.57	0.082	0.475	0.067	0.3	<0.01	75	<0.05	<5	0.2	0.07	0.02	
			ODV-G-33	1.23	3.04	0.45	2.85	0.81	0.51	1.08	0.19	1.14	0.22	0.63	0.087	0.506	0.076	0.3	<0.01	85	<0.05	<5	0.3	0.07	0.02	
		Anort	ODV-G-31	2.58	5.17	0.59	2.71	0.54	0.59	0.54	0.08	0.43	0.09	0.23	0.032	0.212	0.032	0.4	0.05	141	<0.05	<5	0.2	0.49	0.22	
		Ol Leucog II	ODV-G-29	0.90	2.27	0.33	2.02	0.63	0.46	0.76	0.15	0.88	0.16	0.47	0.064	0.403	0.058	0.3	<0.01	68	<0.05	9	0.9	<0.05	0.06	
			ODV-G-40	1.27	3.12	0.45	2.76	0.86	0.52	1.06	0.19	1.13	0.23	0.65	0.090	0.528	0.076	0.3	<0.01	70	<0.05	<5	0.2	0.06	0.02	
		Ol Gb II	ODV-D3	1.09	2.38	0.39	2.19	0.71	0.57	1.01	0.18	1.15	0.23	0.64	0.089	0.540	0.079	0.3	< 0.01	88	< 0.05	< 5	< 0.1	< 0.05	0.05	< 0.5
		Ol Leucog III	ODV-D4	1.50	3.36	0.54	3.04	0.97	0.72	1.33	0.24	1.46	0.29	0.84	0.121	0.730	0.101	0.3	< 0.01	114	< 0.05	< 5	0.2	0.05	0.06	< 0.5
ODV III	LOW	Ol Leucog I	CVD-19A	1.25	2.90	0.50	2.80	0.93	0.59	1.26	0.22	1.35	0.26	0.72	0.102	0.630	0.092	0.3	< 0.01	93	< 0.05	< 5	0.4	0.08	0.06	< 0.5
		Px Gb I	CDV-17	1.86	3.73	0.52	2.42	0.73	0.69	0.90	0.16	0.96	0.19	0.54	0.078	0.480	0.067	0.3	< 0.01	96	< 0.05	< 5	0.1	0.12	0.07	< 0.5
		Ol Leucog II	CVD-16A	1.31	3.36	0.60	3.61	1.26	0.71	1.75	0.32	1.93	0.37	1.05	0.151	0.920	0.134	0.5	< 0.01	78	< 0.05	< 5	0.7	< 0.05	0.03	< 0.5
	UPP	Px Gb II	CV-31	1.11	3.18	0.52	3.32	1.21	0.57	1.50	0.28	1.86	0.36	0.98	0.138	0.812	0.116	0.5	<0.01	47	<0.05	<5	0.3	0.08	0.04	
			CV-28	0.93	2.32	0.36	2.26	0.74	0.43	0.93	0.18	1.07	0.21	0.59	0.082	0.489	0.070	0.3	<0.01	67	0.06	<5	0.7	0.10	0.03	
			CVD-6A	1.08	2.42	0.40	2.31	0.84	0.61	1.13	0.20	1.25	0.24	0.69	0.095	0.570	0.081	0.3	< 0.01	55	< 0.05	< 5	0.1	< 0.05	< 0.01	< 0.5
		Ol Leucog III	CVD-2D	0.83	2.00	0.34	2.07	0.71	0.46	0.96	0.18	1.12	0.22	0.62	0.087	0.540	0.082	0.3	< 0.01	33	< 0.05	< 5	< 0.1	< 0.05	0.01	< 0.5
			CVD-2O	0.93	1.51	0.19	0.73	0.16	0.34	0.12	0.02	0.12	0.02	0.06	< 0.005	0.050	0.007	< 0.1	< 0.01	77	< 0.05	< 5	< 0.1	< 0.05	0.02	< 0.5
BRG I	LOW	Px Gb	PEROG 5	3.70	8.92	1.35	6.48	1.93	0.83	2.29	0.40	2.48	0.49	1.44	0.205	1.310	0.194	1.0	< 0.01	96	< 0.05	51	0.1	0.30	0.12	< 0.5
			CNT-23A	0.79	1.41	0.20	0.88	0.25	0.39	0.28	0.05	0.31	0.06	0.18	0.025	0.160	0.023	< 0.1	< 0.01	75	< 0.05	< 5	0.3	< 0.05	0.03	< 0.5
			CNT-25	1.22	2.92	0.50	2.94	0.98	0.55	1.26	0.23	1.44	0.28	0.81	0.114	0.680	0.099	0.4	< 0.01	76	< 0.05	< 5	0.6	0.06	0.04	< 0.5
		Microgb	CNT-24	1.36	3.40	0.61	3.43	1.21	0.69	1.66	0.29	1.79	0.35	1.01	0.142	0.880	0.127	0.4	< 0.01	73	< 0.05	< 5	< 0.1	< 0.05	0.05	< 0.5
		Ol Leucog II	CNT-26	1.30	1.68	0.20	0.89	0.24	0.41	0.15	0.03	0.18	0.04	0.10	0.015	0.100	0.014	< 0.1	< 0.01	88	< 0.05	< 5	0.2	< 0.05	< 0.01	< 0.5
			CNT-19	1.16	2.82	0.48	2.72	0.93	0.49	1.26	0.22	1.40	0.28	0.80	0.112	0.660	0.091	0.3	< 0.01	70	< 0.05	< 5	0.7	0.07	0.04	< 0.5
			SB-W3	0.74	1.53	0.23	1.28	0.43	0.49	0.54	0.10	0.65	0.12	0.35	0.049	0.300	0.043	0.1	< 0.01	68	< 0.05	< 5	2	< 0.05	< 0.01	< 0.5
			CNT-15A	1.30	2.68	0.41	2.01	0.59	0.52	0.79	0.14	0.84	0.16	0.44	0.061	0.360	0.050	0.2	< 0.01	82	< 0.05	< 5	0.1	< 0.05	0.03	< 0.5
			CNT-15	1.93	3.10	0.34	1.25	0.22	0.45	0.19	0.03	0.14	0.03	0.07	< 0.005	0.030	0.004	< 0.1	< 0.01	86	0.13	< 5	< 0.1	0.06	0.07	< 0.5
	INT	Px Porph Gb	CNT-20	0.67	1.42	0.25	1.45	0.51	0.39	0.64	0.12	0.74	0.15	0.40	0.056	0.330	0.048	0.2	< 0.01	72	< 0.05	< 5	0.3	< 0.05	0.02	< 0.5
			CNT-18	1.06	2.53	0.44	2.36	0.80	0.57	1.07	0.19	1.20	0.24	0.68	0.098	0.600	0.086	0.3	< 0.01	72	< 0.05	< 5	0.4	< 0.05	0.02	< 0.5
			SB-6	1.06	2.24	0.36	1.95	0.64	0.47	0.75	0.14	0.86	0.17	0.46	0.064	0.410	0.063	0.2	< 0.01	41	< 0.05	< 5	< 0.1	< 0.05	0.01	< 0.5
		Ol Leucog III	CNT-27	1.19	2.58	0.39	1.91	0.58	0.51	0.74	0.13	0.79	0.16	0.44	0.064	0.390	0.055	0.2	< 0.01	63	< 0.05	< 5	0.2	< 0.05	0.02	< 0.5
			SB-13	1.10	2.89	0.49	2.80	0.97	0.51	1.28	0.22	1.35	0.27	0.78	0.107	0.640	0.092	0.3	< 0.01	64	0.11	< 5	0.6	< 0.05	< 0.01	< 0.5
	UPP	Oxd rich Ol Leucog	CNT-22	1.16	2.00	0.30	1.56	0.48	0.42	0.48	0.09	0.59	0.12	0.36	0.051	0.310	0.045	0.1	0.10	72	< 0.05	< 5	0.2	< 0.05	0.02	< 0.5
			CNT-28	1.26	2.92	0.46	2.62	0.90	0.61	1.14	0.21	1.30	0.26	0.73	0.104	0.640	0.093	0.3	< 0.01	111	< 0.05	< 5	0.2	< 0.05	0.02	< 0.5
			SB-11	0.73	2.08	0.39	2.37	0.89	0.46	1.27	0.23	1.40	0.28	0.77	0.109	0.670	0.095	0.4	< 0.01	69	< 0.05	< 5	1.5	< 0.05	0.02	
		Oxd rich Px Gb	CNT-21	1.01	3.32	0.65	4.07	1.55	0.64	2.07	0.38	2.37	0.48	1.32	0.182	1.110	0.163	0.5	< 0.01	79	< 0.05	< 5	0.3	< 0.05	0.02	< 0.5
			SB-S3	1.21	2.65	0.36	1.84	0.55	0.52	0.68	0.12	0.74	0.14	0.40	0.055	0.350	0.053	0.2	< 0.01	78	0.06	< 5	0.6	0.08	0.03	< 0.5

Table D.2- Whole rock analysis for LGS gabbroic rocks performed by Rio Narcea Ldt. (for details see methodologies section, this volume).

			(wt%)	SiO_2	Al_2O_3	$Fe_2O_3(T)$	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	LOI	S
BRG II	BS	Px Gb	CNT-8	49.50	19.13	6.86	0.10	9.37	11.65	2.39	0.08	0.30	0.02	0.80	0.080
			CNT-2	50.40	17.22	7.08	0.11	10.08	12.72	2.27	0.07	0.41	0.02	1.00	0.070
			CNT-29	49.40	19.55	7.47	0.11	10.69	11.38	2.55	0.07	0.23	0.03	0.60	0.060
		Ol Leucog	CNT-9	51.80	19.50	6.13	0.09	8.29	12.23	2.81	0.10	0.34	0.03	0.80	0.040
			CNT-1	48.50	24.24	3.09	0.05	4.82	13.73	2.48	0.09	0.19	0.02	0.80	<0.01
			CNT-30	49.20	20.12	7.86	0.11	7.09	11.66	3.13	0.13	1.15	0.05	0.80	0.110
	LOW	Px Gb I	FG-8												0.830
			FG-7	55.00	20.88	6.67	0.16	4.51	7.01	4.60	0.31	0.10	<0.01	2.70	1.180
			CNT-10	49.70	18.81	7.79	0.11	10.06	11.90	2.60	0.09	0.29	<0.01	0.60	0.060
		Ol Leucog I	FG-5	45.40	19.25	12.84	0.10	6.61	10.70	2.66	0.10	2.21	<0.01	0.60	0.230
			CNT-11	50.20	21.68	7.15	0.08	6.23	12.68	3.07	0.10	0.71	0.01	0.60	<0.01
			CNT-7	49.30	26.37	3.88	0.05	5.74	11.21	3.14	0.10	0.10	0.03	1.50	0.020
	INT	Px Gb II	FG-3	44.80	11.47	12.68	0.15	10.40	14.18	1.50	0.08	1.91	0.04	1.10	0.150
			CNT-12	50.40	20.81	5.73	0.08	8.16	12.16	2.57	0.07	0.24	<0.01	0.60	0.050
			CNT-14A	49.50	19.82	5.76	0.09	8.85	13.51	2.27	0.08	0.34	<0.01	1.00	0.050
			CNT-32	48.80	18.31	7.30	0.11	10.79	12.39	2.29	0.07	0.31	0.04	0.70	0.070
			CNT-6A	50.80	19.22	6.95	0.11	10.65	11.84	2.44	0.09	0.24	0.05	0.90	0.040
		Ol Leucog II	MB-16	44.00	27.99	2.80	0.04	4.57	13.75	2.04	0.06	0.09	0.03	2.20	<0.01
			CNT-13	49.50	20.20	6.87	0.10	9.98	12.24	2.44	0.09	0.29	0.03	0.60	0.110
			CNT-31	50.40	19.81	5.39	0.09	8.16	13.27	2.81	0.08	0.33	0.03	0.80	0.070
		Px Gb III	CNT-33	48.40	18.74	6.77	0.10	10.44	12.36	1.95	0.07	0.23	0.06	0.90	0.040
			CNT-36	49.40	19.32	7.00	0.11	10.75	11.94	2.41	0.07	0.25	0.06	0.90	0.060
	UPP	Ol Leucog III	CNT-34	48.60	20.01	4.80	0.08	9.17	14.01	1.99	0.05	0.30	0.06	1.40	0.050
			CNT-35	48.30	19.37	7.07	0.10	10.13	12.28	2.14	0.08	0.24	0.05	1.00	0.080
			CNT-4	49.40	27.13	2.50	0.03	3.38	14.05	2.48	0.12	0.24	0.02	1.40	0.050
		Px Porph. Gb	MB-11	49.80	21.11	5.43	0.08	8.00	12.83	2.49	0.08	0.30	0.03	0.80	0.060
			MB-13	50.00	19.98	7.07	0.11	10.75	11.72	2.57	0.09	0.26	<0.01	1.10	0.060
			CNT-5B	48.20	20.16	6.67	0.10	11.62	13.29	1.60	0.04	0.21	<0.01	2.20	0.040
			CNT-3A	48.90	18.86	7.47	0.11	10.28	12.21	2.43	0.05	0.33	0.05	0.70	0.060
BG		Troct	FA-4	41.10	21.91	3.99	0.06	12.47	11.44	1.60	0.22	0.10	0.03	7.30	0.030
			FA-5	44.30	27.12	2.73	0.04	8.90	12.91	1.30	0.14	0.04	0.02	3.90	0.020

	Al %	Fe %	Mn ppm	Mg %	Ca %	Na %	K %	P %	Ti ppm
FG-8	1.42	2.06	203	0.52	0.70	0.28	0.03	<0.001	193

Table D.2- (continued)

		(ppm)	Be	Sc	V	Co	Cr	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	Sn	Sb	Ba	La	Ce	Ta	W	Tl	Pb	Bi	Th	U	Au	Pd	Pt	Se	Cd	Te	Li	Hg
BRG II																																								
BS	Px Gb	CNT-8	<1	3	29	37	167	110	82	28	10	<2	<5	<50	233	<1	<1	<5	<1	<0.5	<5	<5	30	<2	<2	<2	<5	<5	6	<5	<5	<5	<2	<2	<2	<10	<1	<5	2	<1
		CNT-2	<1	5	35	32	228	130	106	25	9	<2	<5	<50	174	<1	<1	<5	<1	<0.5	<5	<5	26	<2	<2	<2	<5	<5	5	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
		CNT-29	<1	3	12	45	102	169	71	36	10	<2	<5	<50	223	<1	<1	<5	<1	<0.5	<5	<5	30	<2	<2	<2	<5	<5	7	<5	<5	<5	4	<2	<2	<10	<1	<5	<2	<1
	Ol Leucog	CNT-9	<1	3	24	25	63	62	46	20	8	<2	6	<50	172	<1	<1	<5	<1	<0.5	<5	<5	23	<2	<2	<2	<5	<5	4	<5	<5	<5	2	<2	<2	<10	<1	<5	<2	<1
		CNT-1	<1	3	11	11	52	26	25	9	17	<2	<5	<50	421	<1	<1	<5	<1	<0.5	<5	<5	45	<2	<2	<2	<5	<5	9	<5	<5	<5	3	<2	<2	<10	<1	<5	3	<1
		CNT-30	<1	6	144	27	94	38	76	20	9	<2	<5	<50	198	<1	2	<5	<1	<0.5	<5	<5	34	<2	<2	<2	<5	<5	4	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
LOW	Px Gb I	FG-8	<1	2	13	48	71	46	888	26	<5	<2	<5	<50	37	<1	<1	<5	<1	<0.5	<5	<5	106	<2	<2	<2	<5	<5	5	<5	<5	<5	<2	<2	<2	<10	<1	<5	4	<1
		FG-7	<1	3	12	57	117	41	947	37	<5	<2	<5	<50	44	<1	<1	<5	<1	<0.5	<5	<5	31	<2	<2	<2	<5	<5	3	<5	<5	<5	4	<2	<2	<10	<1	<5	4	<1
		CNT-10	<1	3	26	39	163	128	95	30	7	<2	<5	<50	157	<1	<1	<5	<1	<0.5	<5	<5	23	<2	<2	<2	<5	<5	4	<5	<5	<5	3	<2	<2	<10	<1	<5	3	<1
	Ol Leucog I	FG-5	<1	7	425	47	139	23	147	32	13	<2	<5	<50	272	<1	2	<5	<1	<0.5	<5	<5	46	<2	<2	<2	<5	<5	6	<5	<5	<5	3	<2	<2	<10	<1	<5	<2	<1
		CNT-11	<1	4	202	22	60	76	49	14	11	<2	<5	<50	217	<1	<1	<5	<1	<0.5	<5	<5	31	<2	<2	<2	<5	<5	5	<5	<5	<5	5	<2	<2	<10	<1	<5	<2	<1
		CNT-7	<1	<1	5	28	44	90	31	24	18	<2	11	<50	375	<1	<1	<5	<1	<0.5	<5	<5	54	<2	<2	<2	<5	<5	9	<5	<5	<5	7	<2	<2	<10	<1	<5	<2	<1
INT	Px Gb II	FG-3	<1	13	328	32	545	53	152	29	9	<2	<5	<50	164	2	2	<5	<1	<0.5	<5	<5	24	<2	<2	<2	<5	<5	5	<5	<5	<5	4	<2	<2	<10	<1	<5	<2	<1
		CNT-12	<1	2	19	29	126	97	70	23	10	<2	<5	<50	191	<1	<1	<5	<1	<0.5	<5	<5	23	<2	<2	<2	<5	<5	6	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
		CNT-14A	<1	3	20	25	168	81	105	18	11	<2	<5	<50	237	<1	<1	<5	<1	<0.5	<5	<5	30	<2	<2	<2	<5	<5	6	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
		CNT-32	<1	3	16	46	126	101	62	27	9	<2	<5	<50	212	<1	<1	<5	<1	<0.5	<5	<5	26	<2	<2	<2	<5	<5	5	<5	<5	<5	3	<2	<2	<10	<1	<5	<2	<1
		CNT-6A	<1	3	13	35	121	172	80	30	10	<2	<5	<50	214	<1	<1	<5	<1	<0.5	<5	<5	35	<2	<2	<2	<5	<5	6	<5	<5	<5	4	<2	<2	<10	<1	<5	<2	<1
	Ol Leucog II	MB-16	<1	1	3	19	69	72	8	15	19	<2	<5	<50	425	<1	<1	<5	<1	<0.5	<5	<5	38	<2	<2	<2	<5	<5	12	<5	<5	<5	5	<2	<2	<10	<1	<5	3	<1
		CNT-13	<1	3	14	39	50	112	64	28	11	<2	<5	<50	269	<1	<1	<5	<1	<0.5	<5	<5	30	<2	<2	<2	<5	<5	7	<5	<5	<5	<2	<2	<2	<10	<1	<5	4	<1
		CNT-31	<1	4	22	24	99	53	147	14	8	<2	<5	<50	203	<1	<1	<5	<1	<0.5	<5	<5	25	<2	<2	<2	<5	<5	4	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
	Px Gb III	CNT-33	<1	3	10	39	85	135	75	29	12	<2	<5	<50	249	<1	<1	<5	<1	<0.5	<5	<5	33	<2	<2	<2	<5	<5	8	<5	<5	<5	3	<2	<2	<10	<1	<5	<2	<1
		CNT-36	<1	3	12	38	113	153	89	30	10	<2	<5	<50	210	<1	<1	<5	<1	<0.5	<5	<5	31	<2	<2	<2	<5	<5	6	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
UPP	Ol Leucog III	CNT-34	<1	4	12	24	125	89	112	15	13	<2	<5	<50	294	<1	<1	<5	<1	<0.5	<5	<5	32	<2	<2	<2	<5	<5	8	<5	<5	<5	3	<2	<2	<10	<1	<5	<2	<1
		CNT-35	<1	4	17	36	122	141	91	28	11	<2	<5	<50	300	<1	<1	<5	<1	<0.5	<5	<5	38	<2	<2	<2	<5	<5	7	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
		CNT-4	<1	4	17	8	91	58	98	6	19	<2	<5	<50	454	1	3	<5	<1	<0.5	<5	<5	42	<2	<2	<2	<5	<5	10	<5	<5	<5	4	3	11	<10	<1	<5	<2	<1
	Px Porph Gb	MB-11	<1	5	28	29	157	63	235	17	12	<2	<5	<50	281	<1	<1	<5	<1	<0.5	<5	<5	38	<2	<2	<2	<5	<5	8	<5	<5	<5	4	<2	<2	<10	<1	<5	<2	<1
		MB-13	<1	5	23	39	135	137	74	32	11	<2	<5	<50	243	<1	<1	<5	<1	<0.5	<5	<5	36	<2	<2	<2	<5	<5	6	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1
		CNT-5B	<1	4	13	38	173	175	74	27	13	<2	<5	<50	319	<1	<1	<5	<1	<0.5	<5	<5	23	<2	<2	<2	<5	<5	8	<5	<5	<5	11	5	4	<10	<1	<5	<2	<1
		CNT-3A	<1	4	23	39	132	152	114	33	9	<2	<5	<50	179	<1	<1	<5	<1	<0.5	<5	<5	21	<2	<2	<2	<5	<5	5	<5	<5	<5	4	<2	<2	<10	<1	<5	<2	<1
BG	Troctolite	FA-4	<1	3	7	42	109	508	61	22	9	<2	<5	<50	173	<1	<1	<5	<1	<0.5	<5	<5	11	<2	<2	<2	<5	<5	8	<5	<5	<5	5	<2	<2	<10	<1	<5	<2	<1
		FA-5	<1	<1	2	31	39	259	57	10	12	<2	<5	<50	254	<1	<1	<5	<1	<0.5	<5	<5	18	<2	<2	<2	<5	<5	11	<5	<5	<5	<2	<2	<2	<10	<1	<5	<2	<1

Table D.3- Whole rock analysis for BIC mesocratic rocks. All analysis performed by ACTLABS, for details see methodologies sections, this volume.

		SiO2	Al2O3	Fe_2O_3(T)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	LOI	Total	S
	(wt %)	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	TD-ICP
ODV I Amph Gb (Proximal)	**ODV-D1**	46.75	15.13	15.92	0.23	5.26	8.38	3.21	0.61	3.63	0.34	0.79	100.20	0.006
ODV III Pegmatoid	**CVD-5**	55.25	10.96	8.07	0.17	9.53	9.60	3.90	0.30	0.42	0.03	2.02	100.20	
ODV III Low-Ti Diorite	**CVD-19B**	54.51	16.27	8.01	0.13	5.22	8.68	3.85	1.33	1.05	0.17	1.46	100.70	
ODV III Low-Ti Diorite *(1)*	**CVD-19**	64.43	14.00	5.31	0.10	4.51	6.88	3.18	0.68	0.57	0.07	1.25	101.00	
ODV III Low-Ti Diorite *(2)*	**CVD-19C**	56.70	17.11	7.42	0.13	4.13	5.82	4.73	1.36	1.17	0.26	1.75	100.60	
ODV I ATT *(3)*	**ODV-G-43**	61.95	18.73	2.98	0.05	0.63	7.66	5.76	0.40	0.64	0.10	1.40	100.29	
BRG II ATT *(4)*	**MB-3**	57.22	21.63	1.73	0.02	2.55	9.49	5.84	0.09	0.32	0.10	0.99	99.99	

(1) Qz Diorite

(2) Diorite/Tonalite breccia

*(3)*Tonalite/Amph Gb breccia

(4) Trondhjemite

		Be	Sc	V	Co	Cr	Ni	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba
		(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1a)	(1)	(1)	(1)	(1)	(1)
ODV I Amph Gb (Proximal)	**ODV-D1**	2	45	557	55	< 20	50	60	130	22	1.7	< 5	12	321	21.6	50	6.6	< 2	< 0.3	< 0.1	< 1	1.0	0.5	209
ODV III Pegmatoid	**CVD-5**	1	43	126	52	420	110	< 10	70	12	1.6	< 5	3	125	48.3	125	6.5	< 2		< 0.1	2	0.5	< 0.1	33
ODV III Low-Ti Diorite	**CVD-19B**	2	32	199	34	60	30	40	60	17	1.8	< 5	33	323	30.6	128	6	< 2		< 0.1	1	0.7	0.8	403
ODV III Low-Ti Diorite *(1)*	**CVD-19**	1	29	139	54	110	40	30	40	13	1.3	< 5	19	224	17.8	77	1.7	< 2		< 0.1	< 1	0.6	1.1	151
ODV III Low-Ti Diorite *(2)*	**CVD-19C**	2	20	153	36	110	50	40	60	20	1.1	< 5	23	286	38.5	405	5.5	< 2		< 0.1	1	0.5	1.9	758
ODV I ATT *(3)*	**ODV-G-43**	2	3	160	19	<20	<20	<10	<30	16	<0.5	<5	10	672	11.5	433	5.3	<2	<0.5	<0.1	1	0.4	0.7	115
BRG II ATT *(4)*	**MB-3**	1	11	39	20	< 20	20	< 10	< 30	18	0.9	< 5	1	578	14.8	829	1.9	< 2		< 0.1	< 1	0.9	< 0.1	148

		La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U	Cd
	(ppm)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(2)
ODV I Amph Gb (Proximal)	**ODV-D1**	7.96	18.10	2.47	11.60	3.25	1.60	3.95	0.66	3.78	0.75	2.19	0.321	2.040	0.288	1.5	0.54	85	0.07	< 5	0.6	0.63	0.30	< 0.5
ODV III Pegmatoid	**CVD-5**	18.30	44.30	5.88	25.50	6.22	0.83	6.65	1.21	7.40	1.49	4.37	0.664	4.230	0.616	3.7	0.67	113	< 0.05	< 5	0.3	13.90	5.32	
ODV III Low-Ti Diorite	**CVD-19B**	15.50	34.00	4.54	19.10	4.64	1.33	4.89	0.88	5.03	1.01	2.95	0.448	2.800	0.407	3.3	0.47	74	0.13	6	0.8	5.62	1.56	
ODV III Low-Ti Diorite *(1)*	**CVD-19**	8.44	18.80	2.25	9.61	2.49	0.78	2.65	0.49	3.05	0.60	1.80	0.273	1.760	0.268	2.1	0.20	446	0.11	< 5	0.3	7.82	1.38	
ODV III Low-Ti Diorite *(2)*	**CVD-19C**	20.70	45.10	5.62	22.90	5.54	1.61	5.94	1.07	6.05	1.23	3.76	0.599	3.880	0.598	9.0	0.40	182	0.14	6	0.4	8.97	2.78	
ODV I ATT *(3)*	**ODV-G-43**	14.73	26.22	2.48	9.88	1.80	1.04	1.73	0.27	1.59	0.34	1.10	0.187	1.408	0.250	8.8	0.50	172	<0.05	<5	2.1	11.94	3.01	
BRG II ATT *(4)*	**MB-3**	8.64	17.90	2.24	8.82	2.06	0.82	2.26	0.39	2.26	0.46	1.41	0.231	1.600	0.275	14.0	0.11	115	< 0.05	< 5	0.2	1.38	0.82	

(1)- FUS-ICP (1a)- <0.3 FUS-ICP; <0.5 TD-ICP (2)- TD-ICP

Table D.4- Whole rock analysis for LGS mineralizations. Type III mineralisation from Figueirinha (FG-#) performed by Rio Narcea Ldt. (for details see methodologies section, this volume), all others by ACTLABS.

Element:	Units:	Type I mineralisation			Type II Mineralistion			Type III Mineralisation			
		ODV5A1	ODV5A2	ODV5-4	CV-20	CV-26	CV-30	SB-17E	FG-6A	FG-6B	FG-6
SiO2	%							38.65			
Al2O3	%							18.56	1.70	5.48	1.21
Fe2O3(T)	%							18.16	32.00	70.60	41.95
MnO	%							0.09			
MgO	%							6.91	2.01	1.77	1.67
CaO	%							9.25			
Na2O	%							2.02			
K2O	%							0.09			
TiO2	%							0.16			
P2O5	%							0.02			
LOI	%							4.67			
Total	%							98.58			
Al	%	1.04	0.79	0.94	0.68	1.07	0.36		0.45	1.45	0.32
Fe	%	42.90	43.10	49.00	48.90	48.70	48.30		11.19	24.69	14.67
Mn	ppm	3912	1041	651	112	153	103		246	216	197
Mg	%	0.70	0.41	0.19	0.32	0.67	0.36		1.21	1.07	1.01
Ca	%	<0.01	0.03	0.05	0.40	0.79	0.43		1.56	0.85	1.19
Na	%	0.01	0.02	0.03	0.16	0.20	0.05		0.08	0.15	0.05
K	%	0.01	<0.01	<0.01	<0.01	0.01	<0.01		0.01	0.03	<0.01
Ti	%/ ppm	*5.89*	*6.03*	*3.84*	*0.02*	*0.02*	*0.02*		1898	741	1592
P	%	0.00	<0.001	<0.001	<0.001	<0.001	<0.001		0.00	0.00	0.00
S	%	0.02	0.04	0.08	22.99	21.76	24.26	4.35	6.17	8.22	8.23
Be	ppm	2	2	3	<1	<1	<1	< 1	<1	<1	<1
Sc	ppm	35.6	36.2	28.4	0.7	1.7	1.6	6	16	5	12
V	ppm	3514	3750	5520	12	14	11	53	85	43	66
Co	ppm	141	29	29	1240	2130	1220	287	413	1194	531
Cr	ppm	318	263	63	52	57	51	112	201	121	171
Ni	ppm	78	10	21	1480	1420	1526	3610	3105	8937	4556
Cu	ppm	593	131	265	1774	1202	14060	2750	9284	7104	9595
Zn	ppm	491	25	61	6	6	198	50	32	27	28
Ga	ppm							13	<5	<5	<5
Ge	ppm	0.9	0.9	1.6	0.8	1.0	1.1	0.6	<2	<2	<2
As	ppm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2	<5	<5	<5
Rb	ppm	<15	<15	<15	<15	<15	<15	< 1	<50	<50	<50
Sr	ppm	13	17	21	19	36	6	332	7	23	5
Y	ppm	<1	<1	<1	<1	<1	<1	1.4	4	<1	2
Zr	ppm							< 4	5	1	3
Nb	ppm							< 0.2	<5	<5	<5
Mo	ppm	3	2	1	1	<1	<1	< 2	<1	2	<1
Ag	ppm	<0.3	<0.3	<0.3	0.3	<0.3	3.2	< 5	<0.5	<0.5	<0.5
In	ppm	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	< 0.1			
Sn	ppm	<1	1	<1	<1	<1	<1	< 1	<5	<5	<5
Sb	ppm	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.9	<5	<5	<5
Cs	ppm	<1	1.0	<1	<1	<1	<1	< 0.1			
Ba	ppm	<50	150	150	<50	<50	<50	41	4	8	3
La	ppm	<0.5	<0.5	<0.5	0.70	0.50	<0.5	0.91	<2	<2	<2
Ce	ppm	<3	<3	<3	<3	<3	<3	1.76	<2	<2	<2
Pr	ppm							0.22			
Nd	ppm	<5	<5	<5	<5	<5	<5	0.96			
Sm	ppm	0.10	<0.1	0.10	<0.1	<0.1	<0.1	0.23			
Eu	ppm	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.31			
Gd	ppm							0.27			
Tb	ppm							0.05			
Dy	ppm							0.28			
Ho	ppm							0.05			
Er	ppm							0.13			
Tm	ppm							0.018			
Yb	ppm	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.120			
Lu	ppm	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.020			
Hf	ppm	1.0	2.0	<1	<1	<1	<1	0.1			
Ta	ppm	1.20	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.01	<2	<2	<2
W	ppm	40	28	24	8	6	9	65	<5	<5	<5
Tl	ppm	<0.1	0.25	<0.1	<0.1	<0.1	<0.1	< 0.05	<5	<5	<5
Pb	ppm	<3	33	30	<3	<3	<3	17	4	6	4
Bi	ppm	3.0	2.7	2.1	1.6	0.9	1.0	0.5	<5	<5	<5
Th	ppm	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.07	<5	<5	<5
U	ppm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.06	<5	<5	<5
Br	ppm	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5			
Ir	ppb	<5	<5	<5	<5	<5	<5	< 5			
Se	ppm	5.2	6.1	5.0	20.0	17.0	23.0	< 3	16	27	18
Cd	ppm	2.1	3.1	2.7	<0.3	0.5	2.7	0.6	<1	<1	<1
Te	ppm	0.2	0.2	0.1	0.5	0.6	0.9		<5	<5	<5
Hg	ppm	<1	<1	<1	<1	<1	<1		<1	<1	<1
Li	ppm								<2	2	<2
Au	ppb	<2	<2	<2	<2	<2	281	< 2	20	9	13
Pd	ppb								11	25	22
Pt	ppb								31	41	71